

Vol. 9. No. 22. WEEKLY.

BALTIMORE, JULY 10, 1886.

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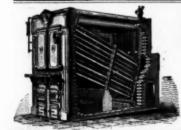
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LIST OF SALES

of thee

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Automatic Engine

NEW ENGLAND AND MIDDLE STATES ONLY

ofor the

90 Days ending June 30, 1886.

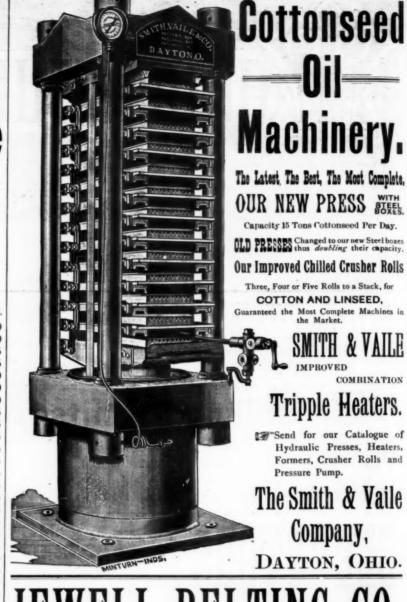
	ROUSE	POWER
	Plainfield Electric Light Co	$\frac{150}{150}$
	Edison Electric Light CoNew Bedford, Mass.	125
1	N. Y., L. E. & W. R. R. Planing MillBuffalo, N. Y.	125
	Allegheny Co. Electric Light Co. (9th order.)Pittsburgh, Pa.	100
	" " (10th order.) " "	100
1	" " " " " " " " " " " " " " " " " " "	80
,	Trenton Electric Light & Power Co., (3d order.)Trenton, N. J.	75
	(4th order) "	75
1	Union Depot P. R. R. Electric Light	75
	" " (2d order.) " "	75
	A. B. Barry	75
1	Union Depot P. R. R. Electric Light	75
1	Westinghouse Illuminating CoSchenectady, N. Y.	75
	Westinghouse Illuminating Co	75
]	Keystone Electric Light Co	75
	" " (2d order,) " "	75
	Keystone Electric Light Co	75
- 1	Plainfield Electric Light Co	75
]	Lynchburg Ice and Refrigerator CoLynchburg, Va.	60
6	Lynchburg Ice and Refrigerator Co	60
1	Brush Electric Light Co(16th order,)Buffalo, N. Y.	60
	"(17th order,) " "	60
1	" " (17th order,) " " Ball Electric Light Co New York, Arbuckle Bros., Coffee (3d order) Brooklyn, L. I.	50
1	Arbuckle Bros., Coffee (3d order) Brooklyn, L. I.	45
1	Fort William Henry HotelLake George,	35
1	Norristown Opera HouseNorristown, Pa.	35
I	U. S. Electric Light & Power CoBuffalo, N. Y.	25
	Kendall Manufacturing Co	25
ŀ	Kendall Manufacturing CoProvidence, R. I.	25
1	Winona Paper Co	25
V	Iunicipal Gas Light CoAlbany, N. Y.	25
_	" " "(2d order, " "	25
eJ	onn Dwight & CoNew York.	25
P	Prospect HouseBlue Mt. Lake, N. Y.	20
ŀ	Penfold, Stead & CoJamestown, N. Y.	15
ľ	Parish Manufacturing Co	15
V	V. JayneNew York,	15
E	E. Balbach & Co., Smelters,(12th order,)Newark, N. J. V. Forward, CreameryMechanicsburg, Md.	15
V	V. Forward, CreameryMechanicsburg, Md.	12
E	E. Balbach & Co., Smelters,(13th order,)Newark, N. J.	10
H	Vilbur GleasonChestertown, Md.	10
F	C. Reed	10
D	outh Side Gas Light CoPittsburgh, Pa.	10
ľ	Tittsburgh " " " " " " " " " " " " " " " " " " "	10
A	outh Side Gas Light Co	10
A	amentown Gas Co	10
D	amestown Knitting Mills(3d order,)Jamestown, N. Y.	10
D	rush-Swan Electric Light CoLong Island City, L. I.	10

Total, Forty-Nine Engines, aggregating 2,492 Horse Power, of which twenty-one (43 per cent.,) were REPEATED ORDERS.

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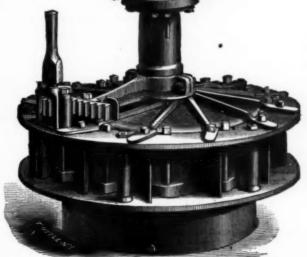
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THE * IMAYNARD * RIFLE

In all Calibres from 22 to 50.

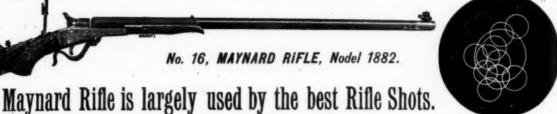
Compactness and Portability. ->> Unequalled for

Unsurpassed for

Our Stock takes Rifle Barrels of different Calibres, and

SHOWING BARREL DETACHED.





100 yards, with a MAYNARD RIFLE, 28 inch, .32 calibre, .35 grains of powder, with a patched bullet of 165 grains.

Cor



THE LYMAN HUNTING SIGHT.



At the Spring Meeting of the Lawrence (Mass.) Rifle Club, May 30, 1885, Mr. E. F. RICHARDSON, with a Maynard Rifle, made 27 consecutive bull's eyes, at a distance of 200 yards, off-hand, on a paper target. On July 11, 1885, he scored 31 consecutive bull's eyes under the same conditions. These scores are the best on record.

On May 9, 1885, Mr. W. H. TAFT, of Brattleboro', Vt., made in a regular match, with a Maynard Rifle, at 200 yards distance, off-hand, 117 out of a possible 120, on the Massachusetts Paper Target, a score which has never been excelled.

Inside of a ring 3½ inch diameter, Mr. C. H. Brown, of Fitchburg, Mass., in a regular match at Walnut Hill Range, July 5th, 1884, at a distance of 200 yards, with a Maynard Rifle, placed 7 consecutive shots.

MASSACHUSETTS ARMS CO., Chicopee Falls, Mass.



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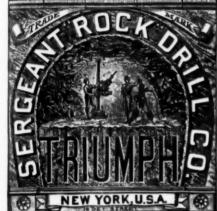
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Boilers, Steam Pumps, Hoisting Engines, Pipe and Fittings, Electric

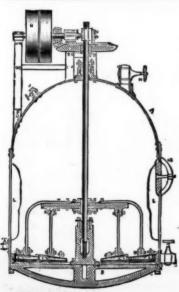
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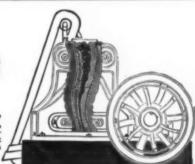
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Disintegrating Machine

The Only Method for Preparing the Ore for Amalgamation

Disintegrating, Decomposing and Lesulphurising the ore under a HIGH TEMPERATURE and PRESSURE OF STEAM HEAT, with chemical action and attrition, dissolves and breaks up the chemical combination in the ores, individualizing, cleaning and separating the atoms of metal from the gangue, perfectly freeing them for amalgamation in combination with the MEECH AMALGAMATION MACHINE and process, (being the greatest combination of Amalgamation known,) will successfully extract 90 per cent. of the metal from rebellious ores, such as Sulphurets, Sulphates, Sulphides, Chlorides, Bromides, Oxides, Tellurides, &c.

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THE MEECH CRUSHER PULVERIZER.

This Machine will CRUSH AND PULVERIZE GOLD AND SILVER ORES to 20, 40, and 60 mesh fine, and from 20, 40 and 60 tons per day.

The principles of this machine, making it superior to all others, are the peculiar concave and convex shape of the jaws, with concave and convex projections.

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MEECH & CO., Cleveland, Ohio.

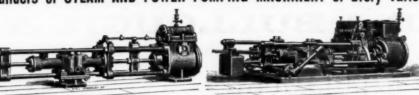
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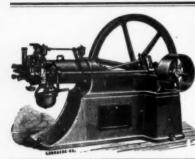
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No explosions, no fires nor cinders, no gauges, no pumps, no engineer or other attendant while ruuning. Recommended by insurance companies, UNSURPASSED IN EVERY RESPECT for hoisting in warehouses, printing, ventilating, running small shops, &c. Sizes: 1 to 25-Horse power.

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BALTIMORE

Manufacturers' Record.

Published Every Saturday by the MANUFACTURERS' RECORD CO.

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R. H. EDMONDS,

W. H. EDMONDS, Secretary and General Manager.

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BALTIMORE, JULY 10, 1886.

WE present to day our regular quarterly review of the industrial growth of the South, giving a full list of all manufacturing and mining enterprises organized during the last three months, and statistics of the amount of capital invested for six months. In the compilation and revision of these statistics there were used over five thousand letters and postal cards, sent out directly from this office, and involving an amount of work that no one but those who have undertaken something of a similar character can possibly appreciate.

We have endeavored to avoid any possible exaggeration, preferring to err in making our figures too small rather than too great. It must, however, be remembered, as we have distinctly said in our quarterly reports heretofore, that we do not claim that the actual cash investments are in the aggregate equal to the statistics of capital and capital stock which we give. Our figures must necessarily include the capital stock of all incorporated companies, and while this is in most cases greater than the actual cash investment, this is partly counterbalanced by the cost of many small enterprises of which we take mo account. The best idea of the 'South's actual industrial progress is gained from the list of new enterprises established. This shows just what has been done, and in the introductory to it a few of the more important enterprises are mentioned in detail, that the general character of this growth may be the better understood.

Death of Mr. Geo. U. Porter.

Mr. Geo. U. Porter, the publisher and editor of the Baltimore Journal of Commerce, who died very suddenly last Monday morning, was one of the most widely known and highly esteemed business men of this city. Mr. Porter was in his 64th year. For over 40 years he had been closely identified with the business interests of the city. In 1849 he established the Journal of Commerce and Price-Current, and under his management it has, since the first issue, been the recognized authority upon all statistical matters relating to the shipping interests and the foreign trade of Baltimore. To these subjects Mr. Porter devoted almost his whole life, and there was probably no other man in Baltimore so thoroughly conversant with the history of the trade of this city for the last 50 years. In 1852 he was elected secretary of the Board of Trade, which position he held up to the time of his death. Twice he was elected a member of the First Branch of the City Council, and during one term was the president of the Council. In 1860 Mr. Porter was appointed a member of the Water Board, and, with the exception of a short period during the war and while in the City Council, he continued in this position up to the time of his death, acting as secretary of the board since 1878. As a member of this board, a position of great responsibility but of no remuneration, Mr. Porter gave a very large part of his time and much hard work for the benefit of the city. In the development of the magnificent water supply of Baltimore, which is regarded as probably the finest work of the kind now in this country, involving the expenditure of millions of dollars, Mr. Porter took a deep interest, carefully and patiently watching every detail of the work. In whatever public work he was at any time engaged, Mr. Porter was more careful in scrutinizing every item of expense than even in his private affairs, fully appreciating the importance of conducting the city's business according to the most thorough business methods, regardless of the time and labor in-volved. Probably the strongest commendation that could have been given of the value of Mr. Porter's services as a member of the Water Board, was his reappointment under so many changes of administration, notwith standing the fact that he never sought the position.

Mr. Porter was a man of remarkably even temper, never permitting himself to become excited or to display anger. The writer was closely associated with him in work upon the Journal of Commerce for some 9 or 10 years, being constantly in the same office, and does not remember ever having heard him speak a cross word to any one. In his domestic life he was a kind and devoted husband and father.

THE Woodstock Iron & Steel Company, of Anniston, Ala., which has an excellent reputation for the interest that it has always shown in the welfare of its employees, has voluntarily advanced wages of all its hands to per cent.

Free Trade Misrepresentation.

The New Orleans States, like some other free-trade papers, in its desperate efforts to prove that American manufacturers have reaped enormous profits on account of a protective tariff, falls into an error that is so plain and that has so often been made ridiculous, that it is hard to see how any writer can present such argu ments in good faith And yet The States is only copying from J. S. Moore, a New York free-trade writer, who, in publishing such statistics, either admits his dense ignorance of all business matters, or else proves that he wilfully misrepresents the facts simply to try to uphold his argument. The case in question, taken from one of Mr. Moore's letters by The States, is that, according to the census of 1880, the amount of capital invested in the hosiery industry was \$15,579,591, the total value of materials used was \$15.210,951, amount of wages paid \$6,701,475, and the value of the product \$29,-167,227. With these figures before him the editor of The States at once decides the exact percentage of profit made in the business as 461 per cent. His method is simply that of others who have applied the same to the entire manufacturing interests of the country-the materials used were worth \$15,210,951, the wages paid were \$6,701,475; adding the two he had, \$21,912,426; deducting this total, made up of two items only, from the aggregate value of the products, leaves \$7,254,796, and this is set down as the actual net profit on the business. What is to be said of a newspaper that will print such trash as this? It can hardly be called trash, though it is rather mispresentation of the worst kind, that inflames the temper of the workmen by convincing them that they do not get a fair proportion of the profits of the business as wages, and makes them restless and discontented. In this calculation, no account whatever is taken of any expense except wages and materials. All other expenses, such as rent, taxes, insurance, bad debts, cost of selling goods, depreciation in the value of machinery, cost of new machinery, fuel for steam and heating purposes, and the many incidental expenses of carrying on business are entirely ignored. Moreover, nothing is allowed for the services of the employers. In 1880 there were 359 hosiery factories. Estimating an average of two members to each firm, and putting the value of their services at least at an average of \$1,000 a year, would foot up over \$700,000 as one item to be deducted from the so-called net profits. Bring the whole matter down to a single firm-A & B have \$15,000 capital in business; they pay out in wages \$6,700, and for materials \$15,000, their products being valued at \$29,000. Deducting amounts paid for these two items alone-wages and

materials-leaves \$7,300, and this,

according to The States, is all net profit. Is it possible that free-trade advocates are so hard pushed for arguments against protection as to attempt to deceive the people by such transparent misrepresentations as this?

Imports of Metals.

The report of the Bureau of Statistics shows that the imports of metals during the eleven months ended May 31, 1886, were largely in excess of the corresponding time of the preceding year. The figures for these two periods compare as follows:

	DEPARTMENT SERVICE	A LEG MINISTERNAL
Articles	May 31, '26.	May 31, 85
Iron ore, tons	624,195	381,359
Pig iron, tons	334,700	141,370
Scrap iron, tons	42,817	19,361
Scrap steel, tons	3,591	4,306
Bar iron, lbs	68,946,081	68,064,136
Bars of steel, tons	9,464	4,127
Cotton ties, lbs	30,469,100	33,8,9,117
Hoop iron, lbs	254,122	752,407
Hoops and plates of steel,	-041	12-14-1
lbs	6.014.752	3,332,712
Ingots, blooms, billets and		-102 11
bars of steel, lbs	23,684,518	37,316,029
Sheet plate and taggers	31-113-	31.3. 1
iron, bls	12.085.751	13,062,390
Tin plates, bls	07,168,016	458,805,501
Wire rods, bls	89,911,168	843,603,516
Wire and wire rope, bls	6.120,122	3,516,223
Anvils, axles & forgings,	0,109,110	312.010.2
bls	1,624,732	1,227,000
Chains, bls	1,903,395	1,252,230
Cutlery	1,511,813	\$ 1,321,127
Files	44,931	44,187
Fire-arms	769,529	1 096,987
Machinery	1,055,205	882,650
Needles	300 694	307,308
All other	1,397.145	1,652,103
Ten Diner	1,097,143	*,03*,103

These statistics show a very decided increase in the imports of iron and steel and the manufactures of the same. Of iron ore the imports advanced from 381,359 to 624,195 tons, and yet the free traders, or "tariff for revenue only" advocates, want to make ore free of duty, and thus still more largely increase the imports, and still further reduce the demand for American iron ores. The foreign ores are mined in Spain, Africa, Elba and elsewhere, by convict and pauper labor, and brought to this country at a nominal price as ballast. Mr. Morrison and his followers want to increase the wealth of the owners of these mines at the expense of American ores by taking off the small duty now imposed.

The increase in the imports of pig iron was 83,000 tons; in scrap iron, 23,000 tons; in steel railway bars, 5,000 tons; hoops and plates of steel, 4,000,000 pounds; ingots, blooms, billets and bars of steel, 86,000,000 pounds; tin plates, 49,000,000 pounds; wire rods, 39,000,000 pounds, and wire and wire rope, 3,000,000 pounds.

THE much-discussed question of whether there is tin in West Virginia or not, has drawn out a letter from one of the tin companies of that State, which is published to-day. Some authorities claim that no tin ore has yet been discovered in that State, but this is denied by those interested in these tin companies.

THE Southern Exposition at Louisville will open August 28 and close October 23. It will be the only exposition in the South this year, and is said to be the largest institution of its kind now in the world.

The South's Industrial Growth.

The Development of the Industrial Interests of the South During the First Half of 1886.

In the development of its manufacturing and mining interests the South moves continually on, each day adding to the number of the productive establishments that give employment to labor, increase the home consumption of farm products, enlarge the aggregate value of the annual output of manufactured goods, and help on the general prosperity not only of the entire South, but of the whole country. The record of progress is nothing less than marvellous. During the last six months this industrial growth has added to the number of manufacturing and mining enterprises in the South 30 ice factories ranging in cost from \$15,000 up to \$150,000 in one case, 40 foundries and machine shops, many of them of large size, 1 Bessemer steel rail mill, 8 miscellaneous iron works, including iron pipe works, bridge and bolt works, &c., 3 stove foundries, 15 gas works, 17 electric light companies, 7 agricultural implement factories, 70 mining and quarrying enterprises, 11 carriage and wagon factories, 8 cotton mills, 18 furniture factories, 15 water works, 29 tobacco factories, 48 flour mills, 248 lumber mills, (not counting small portable saw mills,) including saw and planing mills, sash and door factories, stave, handle, shingle, hub and spoke, shuttle block factories, &c., in addition to which there was a large number of miscellaneous enterprises. How well the South is beginning to diversify its manufactures these figures clearly show. The growth of manufactures in fact covers a wide diversity of enterprises and extends over almost the whole range of human industry, embracing pig iron furnaces, foundries, machine shops, steel works, cotton and woolen mills, cotton-seed oil mills, cotton compresses, fruit canning factories, carriage and wagon factories, agricultural implement factories, flour mills, grist mills, saw mills, planing mills, sash, door and blind factories, shuttle factories, handle and spoke factories, barrel factories, shingle mills, furniture factories, tobacco factories, brick yards, ice factories, fertilizer factories, stove foundries, lime works, soap factories, tanneries, gas works, distilleries, potteries, electric light works, marble and slate quarrying companies, and companies to mine coal, iron ore, gold, silver, mica, natural gas, oil, &c.

The first six months of 1886 were marked by an unusual number of enterprises of great magnitude, calculated to have an important bearing upon the future of the South. The iron interests have continued to attract the greatest attention, and in this line there has been very marked activity, the position of this industry having been very decidedly advanced, in the estimation of capitalists, by several important movements looking towards the increase in iron making in the South. Mr. Samuel Thomas, the leading iron maker of Pennsylvania, and his associates are putting \$1,000,000 into the iron business in Alabama, work having been commenced on one furnace, with plans so arranged that others can be added as the business increases. That Mr. Thomas is willing to back his faith in his ability to make cheap iron in Alabama to the extent of \$1,000,000 is pretty strong evidence in favor of the iron interests of that State. The de Bardeleben Coal & Iron Co., with a capital of \$2,000,000, contributed by leading capitalists of Birmingham, Charleston, S. C., Baltimore and England, have, within the period under review, commenced work upon two large furnaces. Two 100-ton furnaces to be built

at Sheffield have been contracted for by companies composed of such leading iron men as Enoch Ensley, Horace Ware, James P. Witherow and others, who certainly know from long personal experience something about iron making in the South. The Tennessee Coal, Iron & Railroad Co., now operating three furnaces in Tennessee, have decided to build a fourth. James C. Warner, of Nashville, and other iron makers have nearly completed a furnace at Aetna, Tenn.; other Nashville and New York capitalists have subscribed \$700,000 to build two furnaces in Sequatchie Valley, Tenn., and a \$100,000 company has been organized to build a furnace at Calera, Ala. As the record of new enterprises in the iron trade for six months only, the foregoing facts are very sugges-

While these furnaces will largely increase the production of pig iron in the South, it is gratifying to know that much of it will be consumed in the South in the diversified industries that are also increasing there. At Chattanooga the Roane Iron Company will establish a Bessemer steel rail mill of 150 tons daily capacity; at the same time a syndicate composed of the leading cast iron pipe manufacturers of the United States, will build pipe works to turn out 200 tons of iron a day. These works will, according to Mr. Thomas Howard, of St. Louis, one of the leading members of the company, be the "largest pipe works in the world," and will, he writes us, cost \$300,000 to build. The Lookout Iron Company also of Chattanooga, will establish wrought iron pipe works at a cost of about \$35,000. The bridge and bolt works at Birmingham, the three stove foundries and the forty machine shops and foundries organized since January, 1886, will furnish home demand for a very large amount of Southern iron in addition to all that has heretofore been consumed there.

At Newport News, Va., a site has been selected for an immense dry dock, capable of docking the largest ocean steamships, which, in connection with the necessary machine shops, will cost about \$600,000. This great enterprise is to be built at once, and negotiations have been going on for the establishment there of a very extensive iron ship-building yard by a Northern ship-builder. That such a ship-yard will, before long, be in operation there, either by the company that have already been in negotiation, or by some one else, is very probable. With the growth of Southern cities, gas, electric light and water works, three essentials of city life, are receiving considerable attention, and during the first six months of the year, 15 gas work companies, 17 electric light companies and 15 water works were organized in the South. In mining there has been much activity, the most extensive enterprise in this line being an English company with a capital of \$2,500,000, formed to develop cannel coal property, near Cloverport, Ky., on which \$200,000 have already been spent, with a view to shipping this coal to England. In nearly all the other Southern States important mining and quarrying enterprises have been started, involving a large expenditure of money, ranging in a number of cases, from \$50,000 to \$200,000. In Arkansas there has been considerable excitement in mining circles over rich ores lately discovered, and it has been predicted that this industry will soon attract "more attention to the country around Hot Springs than Leadville received in its palmiest days." Especially active has been the marble quarrying interests, one Georgia company having decided to spend \$200,000 in enlarging their operations, while in Tennessee a number of new companies have lately come into existence. The increase in flour milling may be judged from the fact that 48 new milling enterprises have been

organized in six months, many of then to build quite extensive mills, with the latest and best machinery. Old mills are also being enlarged, one in Nashville now being closed while the workmen are busy enlarging its capacity from 300 to 600 barrels a day, one in Galveston where \$150,000 are to be spent in enlargements and improvements, while many others are putting in roller machinery. In the building of cotton mills there has been more activity than for a year or more, and some six or seven new mills are now under construction, mainly in North Carolina, while several old mills that have been idle are undergoing improvements preparatory to starting up. In wood-working enterprises of all kinds, such as furniture factories, cooperage factories, sash, door and blind factories, hub and spoke factories, saw mills, planing mills, &c., ranging in cost from a thousand dollars or so up to fifty thousand and more, very rapid progress has been made. The almost limitless timber resources of the South are yearly commanding more attention, and the great development of this industry in the past promises to be far eclipsed in the future.

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Basing our calculations upon returns received directly by the MANUFACTURERS' RECORD, amply authenticated and verified, and in the case of incorporated companies, compared with the official reports of the State officers, we find that during the first six months of 1886 the amount of capital, including capital stock of incorporated companies, represented by the new manufacturing and mining enterprises organized or chartered at the South, and in the enlargement of old plants and rebuilding of mills that were destroyed by fire, aggregates about \$63,618,200. It is of course true that with some of these companies the actual cash investment is not so large as the amount of their capital stock; but there are hundreds of small manufacturing enterprises, portable saw mills, small grist mills, ginneries and similar small industries, costing from a few hundred to-a thousand dollars, that are not included in this list. The aggregate cost of these would be very considerable, and partly, though not wholly, offset the too great capitalization of some incorporated companies. In addition to this, every manufacturing enterprise is constantly adding here and there a new piece of machinery, which in the aggregate is very great; but we take no account of that, only including cases where a mill is greatly enlarged, remodeled, or other extensive improvements made.

Summing up the amount of capital and capital stock represented by our list of new enterprises, the enlargement of old plants and the rebuilding of mills after being burned, for the first six months of 1886, and comparing it with the figures for the corresponding time of 1885, we have:

		Months of-
	1886.	1885.
Alabama	\$ 4,808,500	\$ 3,580,000
Arkansas	. 11,428,000	375,000
Florida	. 981,000	479,000
Georgia	1,399,000	1,580,000
Kentucky	17,220,700 .	. 10,621,000
Louisiana	1,202,000	1,407,000
Maryland	5,139,000	4,633,000
Mississippi	457,000	416,000
North Carolina	1,485,200	1,535,000
South Carolina	538,000	427,000
Tennessee	5,297,000	1,802,000
Texas	2,986,000	1,310,000
Virginia	5,553,000	2,008,000
West Virginia	5,123,800	6,352,000
Total	\$61,618,200	\$36,534,000

These figures show an increase for the first six months of 1886 over the same time 1885 of \$27,-000,000 in capital and capital stock. The industrial activity in the South during the last six months, as indicated by these statistics, has been far greater than during the corresponding period last year. In fact, the South has, we believe, made more solid and substantial industrial progress since January 1, 1886, than ever before in the same length of time, the new industries established showing a wider diversity and a larger number of very extensive and costly enterprises than in the past.

The mistake is sometimes made of supposing that because the manufacturing and mining interests of the South are increasing so rapidly, that this growth must be visible in every part of the South. This is not yet the case. The South is an immense country in size, and while one portion may be improving, some other part may be standing still. Moreover, a few industries here and there, while not individually attracting much attention, when aggregated in a grand total for the whole South, make the magnificent showing presented to-day. As this industrial growth continues to spread it will soon reach to every part of the South, and the whole section will feel the benefits of it.

In the following list we give the name, location and character of business of the new enterprises organized during the three months ended July 1, 1886, and existing establishments rebuilt (after being burned) or enlarged etc., having already given in our last quarterly review the list for the first three months of 1886:

A	T.	A	R	A	M	A	

	ALABAX	IA.	ı
LOCATION.	NAME.	BUSINESS.	I
Andalusia Cro	ss & Hart	Saw Mill.	ı
AnnistonSam	. Noble and others.	Cotton Compress.	ı
Anniston, (nr.)Geo	rge Eichelbeiger	Jug Factory.	ı
AshvilleD.	E. Casin	Tannery.	ı
Athens W.	G. Davis	†Grist and Planing Mill.	I
Birmingham Pio			ı
		Shop Foundry & Mach. Shop.	ı
		g Co. Enlarged Gas Works.	ı
		Machine Shop.	ı
		orks. Bridge Wo'ks & Bolt Fac.	ı
Birmingham, Slos	s Furnace Co	Improved Furnace.	ł
BrewtonSmi			ı
		CoEnlarged Works.	ı
		r. Co. Furnace & Charcoal W'ks.	ı
Edwardsville Jam	es Clark	Saw Mill.	ı
EdwardsvilleWhi		Carriage & Wagon Fac.	ı
Gurley Pila			ı
Uartralla Ioh	n A Rogers	Handle & Spoke Factory.	ı
Isbell Alle			ı
		Saw and Grist Mill.	ı
(Mo	teomery McKenzi	e & I	ł
Lively	olzev	e & Knitting Factory.	ı
MobileMob	ile Electric Light (Co Enlarged Plant.	ı
		tNew Saw Mill.	ı
Opelika Floy	d & Stevens	†Planing Mill.	ı
PattersonJ. J.			ı
Plantersville 1 ibl			ı
Pollard Esca	ambia Lumber Co	Saw Mill.	ı
Rowland J. K	ellogg	Cheese Factory.	ı
Russelville Rob			ı
		†Foundry & Mac'ne Shop.	ı
SelmaS, B	. Shivers	†Rice Mill.	ı
Sulphur Springs. Em	ore Lumber Co	Saw Mill, Foundry & Mach. Shop,	ı
Talladega J. H	Jones.	Foundry & Mach. Shop.	ı
Talladega Tall	adega G. L. & Wal	t. Co. Enlarged Gas Works.	ı
Talladega McA	rice & Co	Driek Works.	ı
Talladega Mos	ely & Johns	Brick Works.	ı
Talladega W. Tuskaloosa Bow	ov & Co	Saw Mills	ı
Tuskaloosabow	cy & Co	Reick Vard	ı

ARKANSAS,
Antoine R. C. Gentry †Saw Mill.
Arkansas City Desha Lumb. & Planing Co.Saw Mill.
Bear
Conway Martin & Hamilton Iron Foundry.
Crystal Springs. Crystal Springs Mining Co Mining.
Dry Run Dry Run Lumber Co Planing Mill.
Harrisburg Hailer Saw Mill.
Harrisburg D. C. & J. R. Cole Saw and Planing Mill.
Harrisburg D. C. Cole Saw Mill.
Harrisburg Goulette Bros Saw Mill.
HeberG. W. HoltschawFurniture Factory.
Hot Springs Hot Springs Ice Co Ice Factory.
Hot SpringsCaddo Mining CoMining.
Kedron Dry Run Lumber Co Saw Mill.
Little RockSaulsbury & CoCooperage Factory.
Little RockCrystal Ice Co Doubled Factory.
Little Rock D. R. Wing & Co †Foundry.
Little Rock R. L. Cobb & Co Enlarged Machine Shop.
Little Rock Arkansas Water Co Enlarged Plant,
Little RockCapital Cooperage CoCooperage Works.
Little Rock Pulaski Gas Light Co New Gas Works.
Little Rock Little Rock Cooperage Co ! Cooperage Works.
Little RockQuapaw Cotton Mills Co Enlarged Mill.
Little RockD. H. Thomas Cotton Press Factory.
Little Rock R. McMillen & Co Enlarged Saw Mill.
MagnoliaSteeleSaw Mill.
MoarkS. Ferguson
Paragould D. Ray & CoStave Factory.
Paragould Paragould Stave Mfg. Co Stave Factory.
Pine Bluff King Mfg. Co
Rison Brewster & Morris Planing Mill.
Russelville Mayor & City Council Water Works.

FLORIDA.

Apalachicola Apalachicola Ice & Can. Co. Ice & Canning Factory.
Apalachicola Beneham Cameron Canning Factory.
Apaischicoit Denenam Cameron
ApopkaG. Leffler
Bayard Joseph Short & Co Saw and Planing Mill.
Bellevieu E. A. Polly & CoSaw Mill.
Columbia Columbia City Ld. & L. Co.Saw Mill.
Cotton Plant, Person Brick Yard.
EllsworthSaw Mill.
Ellsworth
Eustis J. Armstrong & Bro Wood working Factory.
Forrest City Schultz & Carrollton Castor Oil Mill.
Gainesville, Thomas G. Eaton Gas Works.
Gainesville, Centry City Ice & Stor. Co. Ice Factory.
Jacksonville American Illuminating Co + Electric Light Works.
Jacksonville Pierce Pat. Stone & Blg. Co. Artificial Stone.
Jacksonville, nr Eureka St'm Brick Mfg. Co. Brick Yard.
Key West Julius Ellinger, Cigar Factory.
Key West E. Canals Cigar Factory.
Key West Cayetano Soria Cigar Factory.
Key WestCruz BrosCigar Factory.
Key WestJohn Lowe†Cigar Factory.
Kissimmee,St. Cloud Agr'l & Imp. Co. Sugar Mills, &c.
Kissimmee,St. Cloud Agr I & Imp. CoSugar Mills, &c.
Lake CityH. M. Lee
Lakeville N. W. Clark Artificial Stone Factory.
Lane Park John Minchener Fur. Fac. & Grist Mill.
Maitland Iron Fence Works.
Maitland,Planing Mill.
Millview Charles Ruter Machine Shop.
Mount Dora Tuffts & Libby Saw and Planing Mill.
OrlandoS. Fla. Foun. & Mach. Co. Foundry & Machine Shop.

LOCATION.	NAME.	· Business,
Orlando, (nr.)L.	J. Griffin	Saw Mill.
Palatka J.	P. Pool	Brick Yard.
Palatka]. I	. Amareen	Artificial Stone Factory.
Palatka D.	A. Boyd	Saw Mill,
Palatka Ma	ddux & Co	Brick Works,
	vis & Meeker	
St. AugustineCoc	ok & Libby	Doubled Planing Mill.
St. Augustine St	Augustine G. & E. L.	Co.Gas & Electric Lights.
Sanford Em	mett Herndon	†Grist Mill.
	D. Horton	
	vis & Cooper	
Woodbridge Wn	n. N. Clark & Co	Artificial Stone Factory.
Woodbridge Dan	niel Bros. & Blum	Brick Works.
Woodbury Dia	on & Dunn	Saw Mill.
	OPODOT	

Americus Bell & Simslce Factory.
AntiochJames McCoshFlour Mill. AthensT. G. HadawayTannery.
AthensT. G. HadawayTannery.
Athens M. B. McGinty Planing Mill.
Athens Hunnicutt & Yancy Fence Factory.
Athens Excelsior Cotton Basket Co. Basket Factory.
Athens J. H. Rucker and others Corn Mill.
Atkinson Alexander Prentice Saw Mill.
Atlanta Georgia Marble Co Enlarged Quarrying.
AtlantaSouthern Granite CoGranite Ouarrying.
AtlantaAtlanta Marble CoQuarrying, &c.
AtlantaMutual Mfg. & Loan Asso Lumber Mill, &c.
Bartow Laidler & Co Spoke and Handle Fac.
Ben HillJames G. BarrettSaw Mill. BrunswickNewman & GrierBottling Works.
Brunswick Newman & Grier Bottling Works
BrunswickGeorge EdwardsSaw Mill.
(Rrunswick Land Imp. &)
Brunswick Brunswick Land Imp. & Manufacturing, &c.
Brunswick, (nr.)Safford, Ames & HolmesShingle Mill & Stave Fac
Cambaria Con Line & Theorem & Holmes Shingle mill & Stave Fac
Carriker's Store, Joiner & Thornton, Chair Factory, Cartersville, E. H. Woodward †Mining,
CartersvilleE. H. WoodwardyMining.
CataulaT. H. Kimbrough Grist Mill.
Cedartown Howard & Poole Ore Mining.
CedartownCherokee Iron Co Improved Furnace.
Clayton W. L. Donaldson Furniture Factory, &c.
Crawford Esco, Edwards & Arnold Cotton Planter Factory.
DaltonCherokee Mfg. CoFurniture Factory.
DaltonCherokee Mfg. Co
Elberton. W. J. Knox
Enon GroveT. F. Shackleford
ForestvilleJ. Chambers
Fort Valley Fort Valley Iron Works Machine Shop.
Grayville Gray & Benjamin Basket Factory.
Griffin R. W. Hale Saw Mill.
Jenkinsville R. M. Brooks Foundry & Machine Shop
KingstonOglesby Bros
La Grange Lames McCosh Flour Mill
La Grange James McCosh
Long ViewW. O. Paxton
MariettaMarietta Paper Mfg. Co†Paper Mill.
Milledgeville J. T. Windsor & Co Machine Shop.
PattersonMcDonough & CoSaw Mill.
Red Bluff Loud & BengnottSaw Mill,
Ringgold, (nr.). Robins Bros. & Co †Stone Quarry.
RomeRome Fence CoFence Factory.
RomeRome Ice Mfg. Cotlce Factory.
Savannah Arkwright Cotton Mills † Additional Machinery.
SeneyShingle Mill.
Smarr's Station.George DavisGrist Mill.
SnappingShoals.StewartSaw Mill.
SylvaniaScreven Co. Lumber CoSaw Mills.
Toccoa Martin & Payne Saw Mill.
Trenton Morrison & Hale Ore Mining.
Valdosta Wisenbaker †Saw Mill.
Warren County. Warren Mining CoStamp Mill.
Winterville Mathews & Hutchins Grist Mill.
THE REPORT OF W

KENTUCKY.

RESTUCK 1.
Ashland Ashland Fire Brick Co Fire Brick Works.
Augusta Moneyhon, Kerans & Co Cooperage Factory.
Buffalo, Johnson & Dawson Flour Mill.
Carrollton Carrollton Fur. Mfg. Co Furniture Factory.
Cloverport Breckenridge CoCoal Mining.
Conway Conway Lumber Co Saw Mill.
CovingtonCincinnati Paper NoveltyCo. Envelopes.
(San Iose Mining & Reduc-)
Covington San Jose Mining & Reduc-
Covington U. S. Car & Axle Lubri. Co. Lubricants, &c.
Dover C. W. Hanna & Co Saw and Planing Mill.
Earlington Co-operative Min. & Mfg. Co. Coal Mining, &c.
Farmers Buckwalter Bros Lumber Mill.
Frankfort Frankfort Heating Co Natural Gas.
Frankfort Dunigan & Nicol Saw & Planing Mill.
FrankfortS. ParteeFlour Mill.
Greenup B. F. Pratt & Co †Grist Mill. Greenup Co W. B. & J. C. Taylor Saw & Grist Mill.
Greenup Co W. B. & J. C. Taylor Saw & Grist Mill.
Henderson Thos. Hodge Tobacco Factory.
Henderson Henderson Woolen Mills Added Machinery.
Henderson Robards & Kitchell Tob.Co. Enlarged Factory.
Henderson I. N. Hoge & Co Tobacco Factory.
HendersonJ. N. Hoge & Co'Tobacco Factory, High PointW. P. Pickett & CoImproved Mill.
Hopkinsville Metcalfe Mfg. Co Enlarged Works.
Hopkinsville Metcalfe Mfg. Co Enlarged Works. Hopkinsville Hopkinsville Petroleum & Gas.
Kentucky Ky. Auto. Fire Escape Co Fire-escapes,
Lewis County. Mason, Valz & Co Stone Quarries (4).
Lewis CountyD. Shanahan & Sons,Stone Quarrying.
Lewisport T. M. Blandford Planing Mill.
Louisville Ewald Iron Co Rolling Mill.
Damascus Edge Tool & L.
Louisville Damascus Edge Tool & Edge Tools, &c.
Louisville Common Sense Fertilizer Co. Fertilizer Works.
LouisvilleOhio Falls Mfg. Co
Louisville Golden City Placer Min. Co. Mining.
Louisville Ohio Falls Cooper Works Cooperage Works.
Louisville M. Edelmuth Cooper Works: Cooperage Works.
LouisvilleM. Edelmuth
Morton's GapMiners Co-operav'e Min.Co.Coal Mining.
Newstead A. M. Henry Saw Mill.
NicholasvilleS. S. Greenbaum Distillery.
Pedee A. M. Henry Saw Mill.
VanceburgW. A. PlummerAgricultural Imp. Fac.
VanceburgL. H. James & CoAgricultural Imp. Fac.
WinchesterStuart & NealBrick Yard.
Winchester White Bros Brick Works.
WinchesterJ. S. Dowry

LOUISIANA.

AND CARACTERS
Columbia. Humphries & Murphy Saw Mill. Franklin. Burden Cen, Sugar Ref. Co. Sugar Refinery, Monroe. John Gerspach. †Brick Yard. New Iberia. Larkin & Ribbeck. †Boiler Shop. New Iberia. Larkin & Ribbeck. †Boiler Shop. New Orleans. A. W. Cooper T. Cotton Compress. New Orleans. A. W. Cooper T. Cotton Compress. New Orleans. Crescent City Rice Mill Co. Rice Mill. New Orleans. American Oil Co
Shreveport Shreveport Electric Light Electric Light Works.
MARYLAND.

	MARYLAND	
Baltimore	.Chesapeake Belting Co	. Belting Factory.
	. Maryland Vinegar Co	
Baltimore	.C. A. Gambrill Mfg. Co	.Improved Flour Mill
Baltimore	.Chesapeake Gas Co	. Doubled Plant.
Baltimore	.Samuel C. Ridgeway	. Factory.
Baltimore	. Maynard & Wethered	. Leather,
Baltimore	Furniture Workers' Co-op- erative Mfg. Associat's.	Furniture Factory.
Baltimore	Toulmin Electrical Rail- way Gate Co	Electrical Gates.
	Atlantic Electric Light	

LOCATION.	NAME.	Business.
	verine Oil Co	
Paltimore Do	shua Regester & Sons	Co. Fire Extinguishers.
Baltimore Pe	ltimore Mfg. Co	Scouring Bouder
Baltimore Me	etal Seaming Co	Metallic vessels, &c.
Baltimore H.	A. Ramsay Eng. Wor	ks. +Foundry
Belair Be	lair Chemical Co	Medicines.
Bloomington R.	L. Somerville & Co	Saw Mill.
		Improved Flour Mill.
Burns Switch J.	B. Ayres & C. Catches	art. Flint Mill.
CastletonSm	igh	Grist & Flour Mill
ColoraWi	aring Fertilizer Co	Corn Mill.
Cumberland Fa	gerweather & Ladew	Tannery.
Deer Creek Ru	tledge	Canning Factory.
DentonP.	W. Downes	Planing Mill.
	nk W. Redden	
Easton	H. Withgott	Enlarged Foundry.
Faliston Hc	ary Reckord & Son	Flour Mill.
Frederick Bro	own & McKinney	Tlannery.
Hagerstown Joi	hn E. Rowland E. Phillips	Plan Mill.
	E. Masenheimer	
		Saw and Grist Mill.
		rks. Phosphate Factory.
North East Gr	een Hill Fire Brick Co	Enlarged Works.
Piney Creek P.	M. Wiest	Improved Flour Mill.
Port Deposit Re	ynolds Bros	2Can Factory.
Potomac Riv. Sun	quehanna Water Powe	Pulp Mill.
Preston	Wright	1Saw & Grist Mill.
Tai (Tai	ngier-Manokin Ovate	ri-
Prince Anne] I	ngier-Manokin Oyste mp. Co	Canning, &c.
Wash'ton, D. C. Bar	rber Asphalt Paving C	oIncreased Capital.
	F. Hess	

١	EllisvilleAckenhausen & NordmanSaw Mills (2),
I	GreenvilleJ. Wall*Foundry.
Į	Greenville Scott & Sima Brick Yard,
ı	Greenville, Greenville Oil Works Cotton Seed Oil Mill.
ı	HuntingtonE. H. WraySaw Mill.
ı	JohnsonvilleBrown & Archer Brick Works & Saw Mill.
ı	KosciuskoW. P. RatcliffeSaw Mill.
1	KosciuskoJ. S. Roan & SonSaw Mill.
ı	Lake View Hotchkiss & Co :Saw Mill.
I	Macon Macon Creamery Co Cheese & Ice Factory.
١	McCool J. R. ClarkSaw Mill.
ı	Meridian American Water Works & Water Works.
ı	Guarantee Co (Water works,
I	Natchez Natchez Gas Light Co Enlarged Works.
ı	Port Gibson Port Gibson Oil Works Improved Mill.
ı	Vicksburg M. L. Dedman Bottling Works, &c.
ı	Vicksburg W. E. Beck & Co Bottling Works.
1	VicksburgVicksburg Spoke CoSpoke & Handle Factory
1	Vicksburg Mattingly Milling Co Doubled Corn Mill.
1	West Point H. A. Wise Saw M'l & W'd'nware Fac.

NORTH CAROLINA.

	Month Canonina.
	AdvancePhelps & VoglerDistillery.
	Asheville Mayor & City Council Water Works.
	Ashaville Ashaville Cas & Light Co. Cas Works
	Parterille I W Crisher & Co. Crist Mill
	Deniavine J. W. Orisham & Co Orist Mill.
	Brevard S. E. Lucas Flour Mill.
	Beulaville J. W. Grisham & Co. Grist Mill. Brevard S. E. Lucas Flour Mill. Brevard J. C. Cooper. Distillery. Charlotte. Thompson-Houston E. L. Co. Electric Light Works.
	Charlotte Thompson-Houston E. L.Co. Electric Light Works.
	Craven County, Card & Gallup.,
	Duplin CountyT. B. PierceBasket Factory.
	Durham, W. H. Howland Water Works
	Duplin County. T. B. Pierce
	Fair BluffBig Swamp CoLumber Mill.
	Cold Hill (no.) Townsond
	Gold Hill, (ar.). Townsend
	Gold Hill, (nr.). E. P. Fenner and others Stamp Mill.
	GoldsboroDeans, Pearson & HamSaw Mill.
	Goldsboro O. R. Kand IMachine Shop.
	Goldsboro. Deans, Pearson & Ham, Saw Mill. Goldsboro. O. R. Rand. Machine Shop. Graham. J. L. Scott & Son. Additional Machinery. Graham. Scott, Donnell & Scott. Cotton Mill. Greensboro. Chimas Woodroffe. Wood-working Factory.
	GrahamScott, Donnell & ScottCotton Mill.
	Greensboro, Thomas Woodroffe Wood-working Factory.
	GroverCollins & TurnerDistillery.
	Hendersonville Boilston Mining Co Gold Mining
	Hickory Carolina Foundry Co Foundry, &c. High Point Modern Tobacco Barn Co Tobacco Barns.
	High Point Modern Tobacco Barn Co. Tobacco Barns
	High Point Backery Posters and Control Park Mill
	High PointPaalzow
1	HommanA. B. Pearsail & Co
	HoffmanA. B. Pearsall & Co [Saw Mill. Hudsonville Throneburg & Adderholt Flour Mill.
	Jamestowa W. H. Idol Saw Mill.
	JamestonJ. H. JohnstonBasket Factory.
1	Jamestown. W. H. Idol Basket Factory. Lexington. Wm. E. Holt Cotton Mill.
	LibertySurgess & BrosSaw Mill.
	Lowell McAden Cotton Mills New Machinery.
1	Liberty Burgess & Bros Saw Mills Lowell McAden Cotton Mills New Machinery, Lumberton Jenkins & Williams. Distillery, Mebanesville. L. Banks Holt. Grist Mill, Midway. Thomas Beard & Co. Corn Mill. Milton. E. D. Winstead & Co. Improved Tobacco Fact'y
	Mehanesville I. Banks Holt Grist Mill.
	Midway Thomas Beard & Co. + Corn Mill
	Milton F. D. Winstead & Co Improved Tobacco Fact's
1	
П	Montgomery W A Tilden Mining
П	Moore County. W. A. Tilden. Mining. Moore County. Robinson & Bro. Saw Mill. Morehead City. J. W. Sanders & Co. Grist Mill. Murphy, (or.). A. S. Hadaway. Mineral Paint. North Carolina Mitchell Mica Co. Mica Mining.
П	Moore County. Robinson & Dro
П	Morehead City). W. Sanders & Co
П	Murphy, (nr.)A. S. Hadaway Mineral Paint.
-1	North Carolina. Mitchell Mica Co Mica Mining.
- 1	
-	Raleigh Ruffin Roles Furniture Factory, Raleigh W. H. Wetmore & Co †Shoe Factory, Randleman Ferree & Walker Cotton Mill,
- 1	Raleigh W. H. Wetmore & Co Shoe Factory.
- 1	Randleman Ferree & Walker Cotton Mill.
-	Randolph CoUwharrie MineStamp Mill. RockinghamRoberdel Mfg. CoAdditional Machinery.
1	Rockingham Roberdel Mfg Co. Additional Machinery
-	Rutherfordton Wilson & Hicks Brick Yard.
- 1	Salishuru Ismes R Isnier Distillery
-	Salisbury James B. Lanier Distillery. Salisbury Robertson & Miller Enlarged Factory.
- 1	Salisbury Robertson & Miner Emiliged Factory.
П	Sairsbury James D. Lamer Storm Mill
П	Salisbury, (nr.1), M. Herban
- 1	Salisbury, (nr.) Jenkins Blackwell
1	Sander's Store. J. W. Sanders & CoSaw and Grist Mill.
1	Scotland Neck., R. W. Walten Tobacco Factory.
	Shelby Wine Factory.
	Silver
	TarboroM. L. HusseyCarriage Factory.
- 1	Thomasville, Staples & Shipplett Enlarged Tobacco Fac.
1	Trap Hill Wm. Bittings & Bro Distillery.
	Salisbury, Robertson & Miller. Enlarged Factory. Salisbury, James B. Lanier. Brick Yard. Salisbury, (nr.). J. M. Tiernan. Stamp Mill. Salisbury, (nr.). Jenkins Blackwell. Distillery. Sander's Store. J. W. Sanders & Co. Saw and Grist Mill. Scotland Neck. R. W. Walton. Tobacco Factory. Shelby. C. Fromm. Whise Factory. Silver. C. C. Foreman. [Saw Mill. Tarboro. M. L. Hussey. Carriage Factory. Thomasville. Staples & Shipplett. Enlarged Tobacco Fac. Trap Hill. Wm. Bittings & Bro. Distillery. Union County. Hemby Mine. Mining Machinery. Wadeville. W. F. Wade & Bro. 1 Distillery. Webb's Creek. Mass. & Southern Con. Co., Saw Mill.
П	Wadeville W. F. Wade & Bro Distillery
- 1	Wahk's Creek Mass & Southern Con. Co. Saw Mill
- 1	Wilmington Fowler & Green Stave & Shuttle Block Fac.

SOUTH CAROLINA.

ı	CharlestonC. C. PinckneyAcid Chambers.
ı	Charleston Equitable Gas Co Gas.
ı	ColumbiaColumbia Hosiery Co Enlarged Mill.
1	Columbia C. C. Habenicht Enlarge Ice Factory.
1	ColumbiaOliver Oil Co
ı	Cowpens Tanner & Lemaster, Sash and Door Factory.
ı	DudleyC. R. HarwinSaw Mill.
ı	Dudley R. Harwin
1	EasleyLatham & ClementFlour Mill.
1	Etheridge West & Black Saw Mill.
ı	Foreston Geo, E. Hudgins Saw Mill.
	ForestonR. R. Hudgins†Rice Mill.
١	Georgetown Congdon, Hazard & Co Distillery.
1	Greenville Huguenot Mills Improved Cotton Mill.
1	Greenville J. E. Payne Distillery.
1	Langley Langley Mfg. Co Enlarged Cotton Mill.
1	Liberty
1	Liberty H. Dwen Marble Sawi g machinery.
1	ManningC. R. HaromSaw Mill.
1	RoundA. E. Williams
1	Simpsonville W. T. Corner, Tobacco Factory,
1	Sumter Mayor & City Council Water Works.
1	Union Union Furniture CoFurniture Factory.
1	Walhalla Holleman & Rieman Flour Mill.

Athens	Athens	Woolen	Mill	Wooler	a Mill.
Bank	A. Ken	nedy		Grist A	Aill.
Bristol					
Chattanooga.	Chat. 2	Nat. Gas.	& Htg.	Co. Natura	d Gas.

LOCATION.	NAME.	BUSINESS.
Chattanooga	Thos. Howard and oth	ers,Iron Pipe Works.
Chattanooga	lead & Hackney	ers,Iron Pipe WorksImproved Flour Mill. CoCanning Factory,Enlarged Mill, &cBessemer Steel Plant†Iron Pipe WorksAdditional Machinery,Oil CupsWin-)
Chattanooga(Chattanooga Canning	Co Canning Factory.
Chattanooga	ookout Kolling Mill.	Enlarged Mill, &c.
Chattanooga	Roane Iron Co	Bessemer Steel Plant.
Chattanooga	C Shelton	Additional Machinery
Chattanooga	M H Dooley and other	era Oil Cupa
Chartanooga	Perguson Champion	din-)
Chattanooga ?	ing Drill Co	Additional Machinery, ses. Oil Cups. Min-} Water Works. Enlarged Ice Factory, Co. Electric Light Works. Tannery, Marble Works. Flour Mill. † Coke Ovens. Ice Factory, Saw Mill. † Grist Mill. Axe Handle Factory. Grist Mill. Grist Mill. Co. Enlarged Mill. Co. Enlarged Factory, Saw Mill. † Bottling Works, Marble Quarrying. Saw Mill. Broom Factory. Saw Mill.
Chattanooga	Chattanooga Water Co	Water Works.
Chattanooga	ookout Ice Co	Enlarged Ice Factory.
Clarksville (Clarksville Elec. Light	Co. Electric Light Works.
Cleveland	E. G. Miller	Tannery.
Concord	Concord Marble Co	Marble Works.
Conkling	H. H. Ruble	Flour Mill.
Daisy J'	Tabler-Crudup Coal	& L+Coke Ovens
Dailey	Coke Co	Tooke Ovens.
Dayton	W. C. Gardenshire	Ice Factory,
Dayton	Hart & Willson	Saw Mill,
Dayton	M. Finger	TGrist Mill.
Dibrell	evi Wilson & Sparkm	an Flour Mill.
Friend's Sta	. E. Gardner	Saw Mill.
Greenville	W. H. Brown	Axe Handle Factory.
Heiskell's Sta	sittle, Son & Co	Grist Mill.
Henopson	onn Seats	II C. Felegard Mill
Holder's Store	lenn. Saw & Plan. Mi	Co.Enlarged Mill.
Knob Creek	D Shefres	Co. Enlarged Factory.
Know Creek I	tandard Ale Co	Dottling Works
Knownille	Capublic Marble Co	Marble Quarries
K novville	cepublic Marbie Co	Saw Mill
K nowville	F Champion	Broom Factory
Lewishurg (offer Woods & Co	Saw Mill. Broom Factory. Improved Flour Mill. Marble Quarry. Marble Quarrying. Marble Quarrying. Marble Quarries. Flour Mill. I Co Planing Mill. Water Works. †Saw Mill. Leather Belting. I ce Factory, &c. †Planing Mill.
Loudon	R Dew	Marble Quarry
Loudon	oudon Marble Co	Marble Quarrying.
Concord	Frown, Godfrey & Co.	Marble Quarries
Louisville	Vesner Mitchell & Co.	Flour Mill.
McKenzie	AcKenzie Planing Mil	Co . Planing Mill.
Memphis(itizens Water Co	Water Works.
Memphis I	lotchkiss & Strong	†Saw Mill,
Memphis	peers Wadding Co	Leather Belting.
MemphisS	chiltz Brewing Co	lce Factory, &c.
Menphis	cole Mfg. Co	+Planing Mill.
Morganton	homas A. Cruse	Saw Mill.
Nashvillel	. S. Ferris & Co	Soap Works.
Nashville	assety Oil Co	†Oil, &c.
Nashville	niversal Dynamophor	
Nashville	umberland Lum. & Bo	ox Co.†Planing Mill.
Nashville I	lowe Pump Co	Pumps.
Nashville	itizens Nat. Gas & Pe	t. Co. Natural Gas, &c Doubled Flour Mill.
Nashville	lashville Mill Co	Doubled Flour Mill.
Nashville	outhern Fuel Savings	Co
Nashville	umberland Natural C	Natural Gas.
Machaella Y	avilangham	4Fulannai Sam Mill
Nashville L	Evi Langnam	TEnlargen Saw Mill.
Pleasant View	Lewton & Busford	Planing Mill
Pulaski N	A R Neeley & McCon	d Flour Mill
Redell N	Loore & Samuel	Criet Mill
Sequatchie Val S	equatchie Coal & Iron	Co. Two Furnaces
shelpyville N	lew South Wagon Wo	rks. Wagon Factory
Pittsburgh T	enn. Coal. Iron & R. B.	Co. †Furnace.
pring City B	erger & Varney.	Foundry & Machine Shop
pring CityS	H. Varney	Tannery.
weetwater (illette & Lenoir.	Cotton Batting Factory
Frenton	C. Taylor & Co.	Flour Mill
Vauhatchie [ixie Powder Co	Co. Jas Natural Gas. Tenlarged Saw Mill. Saw Mill. Planing Mill. di Flour Mill. To: Two Furnaces. rks. Wagon Factory. Co. Ffurnace. Foundry & Machine Shop Tannery. Cotton Batting Factory. Flour Mill. Dynamite Factory.
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Abilene Abilene Ice Factory Ice Factory.
Abilene Abilene Water Co Water Works.
Alvarado Alvarado Rol, Mill & Ele, Co, Flour Mill.
Austin Austin Electric Light Co Electric Light Works.
Austin Zilker Bros
Beaumont Beaumont Iron Works Co tlce Factory.
Beaumont Nicholas Blanchette Brick Yard.
Bonham Williams & Stitzel Improved Flour Mill
Column Calvert Water, Ice & I was a series
Calvert Water, Ice & Water Works, &c. Calvert B. W. Beckham Mill.
Calvert B. W. Beckham Mill.
Cisco Cisco Water & Arte, Well Co. Water Works.
Coleman Coleman Water Works Co. Water Works.
Colorado Lone Star Salt Co Salt Works.
Colorado J. M. Bassett Ice Factory.
Colorado J. M. Bassett Ice Factory.
Corrigan Kurth & Co Planing Mill.
Daingerfield Chambers & Barnes Saw Mill & Chair Facto
Denison Denison Crystal Ice Co Ice Factory.
Duck Creek Wallace Bros. & Wyatt Flour Mill.
Eagle Pass Mexican Ore Co Ore Machinery.
Fort Worth Fort Worth Printing House. Box Factory.
Gainesville Gainesville Ice Co Enlarged Factory.
Galveston Texas Star Flouring Mills. Flour Mill.
Granbury J. N. Haney & Co Improved Flour Mill.
Greenville Farmers Alliance Flour Mill.
LadoniaJ. E. JacksonFlour Mill.
Lockhardt Lockhardt Water Supply Co. Water Works.
Mansfield Mannsfield Mill Co Flour Mill.
(Collins County Alliance)
McKinney Collins County Alliance Flour Mill.
MexiaWater Works.
Orange Bancroft & Sons Saw Mill.
Paris Paris Gas & Elec. Light Co. Electric Light Works
Rusk Penitentiary 4Water Dine Found
Sierra Carmen Silver Min. 1
Mobeetie Sierra Carmen Silver Min- Mining.
ShermanZ. P. Dederick
Sherman Sherman Oil & Cotton Co Ginnery, &c.
Sugar LandL. A. Ellis Sugar Mill.
Temple Temple Compress Co. Cotton Compress
Temple Temple Compress Co Cotton Compress. Troupe Ed. Aber Saw and Planing Mill.
Valley Mills Flour Mills
Valley Mills
Wichita Falls Wichita Water Power Co Water Power, &c.
Wills Point Herman & Dayrolds : Flow Mill

VIRGINIA.

* A.B. (1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
ClaremontCharles Hammond
Fincastle, (nr.).E. O. ZimmermanStone Quarry.
Fredksburg, (nr)G. A. MatthewsGold Mining.
Graham's Forge, Graham & Robinson Flour Mill.
Green Forest Wm. N. Seay Machine Shop.
Liberty I. Fiser & Co Agricultural Imp. Fac
Liberty W. F. Graves & SonImproved Flour Mill.
Lynchburg Miller & Hawkins Tobacco Factory.
Massie's Mills. Piedmont Iron Works Foundry.
NorfolkAmerican Oil & Leather Co. Fish Oll and Leather. Parkin's Mills. Alfred Parkins
PetersburgBlueridge Mfg. CoImproved Cotton Mill
Petersburg Robert Clark Planing Mill.
Petershurg Upper Appoint tov Co Flow Mill
Portsmouth Knights of Labor Machine & Boiler Co Machine Works.
Rich Hill Crozier Steel & Iron Co †Ore Mining.
Richmond Tanner & Delaney Eng. Co. Enlarged Works
Richmond Oppenheimer & Cutching Clothing Factory
Roanoke Koanoke Zinc & Sil Min Co Mining &c
Roanoke E. H. Stewart & Co Mattress Factory.
Sandy Ford D. T. Hogan Saw Mill.
Staunton West & Subletts Bark Mill.
Staunton Thurmond Coal Co Coal Mining.
Staunton Thurmond Land Co Coal Mining. Verbena H. B. C. Gentry ‡Flour Mill.
WarsawI. D. Garland Planing Mill

WEST VIRGINIA.

sbury Jas. E. Harrah Saw Mill. igClear Creek. Henry & Co. Saw Mill. ramwell. Stephenson, Mullin & Co. Coal Minin itro. James McKinney & Bro. Flour Mill.

LOCATION.	NAME.	BUSINESS.
Cedar Grove C	. H. Strong & Son	Ouarry.
Charleston E	llack Diamond Coal Co	Coal Mining.
Charleston C	harleston Gas Light Co	Enlarged Works.
Charleston F	logue & Savage	Saw Mill.
EagleV	Vm. Wyant	†Coke Ovens.
Fire CreekF	ire Creek Coal & Coke	Co †Coke Ovens.
Frank's Run t	lendersor & Bates	Saw Mill.
Huntingdon, nr.F	rederick Prentice	Natural Gas.
IndependenceF	Nemeggei	†Iron Furnace.
Middleboro T	'yler County Gas & Oil	Co.Oil and Gas.
Milton	f. F. Paris & Co	Agricultural Imp. Factory
Orange	ames Foster	Saw Mill.
Parkersburg]	. H. Cole	Foundry & Mach. Shop.
PiedmontV	Vm. Kliptein	‡Saw Mill.
Roane CountyT	Thomas Williams	Gold Mining.
RowlesburgC	. Stockham, Jr. & Co.	Planing Mill.
St. Albans C	oal Riv. Boom & Driv.	Co. Lumber, &c.
St. Albans I	lumbird, Sleiger & Co	Saw Mill.
Thomas F	R. L. Somerville	Saw Mill.
West Virginia P	neumatic Power Co	Increased Capital.
W Winds (J	ohnson-Lumley Cotte	on I Catton Cine
west virginia	ohnson-Lumley Cotto	Cotton Gins.
WheelingV	Vheeling Oil Co	Oil and Gas.
WheatlandJ	efferson Woolen Mills	†Woolen Mill.
WheelingI	on Mfg. Co	
WheelingC	Central Oil Co	Oil, &c.

or firms in existence prior to January 1, but since that time arged their works or built new works, or increased capital. In cases given in this list, reference is made to entirely new works

OUR BIRMINGHAM LETTER.

The Tariff Question-Activity in Building Operations

[Special Correspondence MANUFACTURERS' RECORD,[

BIRMINGHAM, ALA., July 1, 1886.

Reflection on the beauties and possibilities of the Randall bill has satisfied our people that there is little danger of its passage, even of its consideration, this session. It is, therefore, not much a matter of anxiety. By the time another Congress meets the tariff views of the people will have been crystallized sufficiently to make some things plain that have heretofore been otherwise to the average M. C. One of these is the fact that the laboring class and farmers are good enough protectionists, and, farther, that the patriot seeking re-election to the national legislature will do well to place himself on record as a friend to American enterprise and labor. Tariff revision the people want, but a revision on an ascending and not on a descending scale. The iron and steel schedule, for instance, needs amendment badly. It needs it for one reason, because, during the first five months of 1886, the United States took nearly one-third of the entire British export of pig iron. In the corresponding period of 1885, we took one-eighth, and that was too much. If American mines and furnaces are worth protecting at all, they are worth protecting to a tune that will shut out this foreign iron. Any other view of the matter must involve at least the gradual adjustment of wages in this country to the level of wages in the Old World, and we are hardly ready for that yet.

It is to be feared, perhaps, that Mr. Randall's views on the lumber tariff may have an ill effect upon a very important Southern interest. If this session of Congress had gone by without any movement in the direction of free lumber, there can be no doubt that the next year would have witnessed an important development of Southern forest resources by Michigan and Wisconsin lumber operators. As the matter stands, it may be that Mr. Randall's position will have an effect to encourage the selfish Northwestern pine barons in the belief that, by and by, they are to attain their ambition in the control of free lumber from Canada. Nothing has retarded the adequate development of our splendid timber resources as much as this illegitimate The effect of what has recently happened at Washington upon our prospects in this direction has been unfortunate. Capital, which has been growing interested in Southern timber, as it has never been before, will now halt until the free lumber question has been settled definitely. There is but one thing for the South to do, and that is to make a high timber and lumber tariff an issue in every Congressional convass this side of Mason and Dixon's line. There is not lacking a spice of humor in the effort to build up a gigantic industry in Canada to the detriment of the Southern States. The pine barons of Michigan, Wisconsin and Minnesota claim that they want Canadian timber in order to the conservation of remaining American forests. The argument is as rich as soap-grease. These same operators have been among the most approved breed of conservators of the American forests in their own States. They have been so anxiously patriotic on the subject that they have denuded about all the headwaters of the Mississippi of timber, thereby causing destructive floods to devastate the property of their fellow countrymen along the Mississippi Valley; and in Wisconsin and Michigan they have skinned the face of the earth of every saleable stick they could lay hands on. Having turned the forests of that region into stump deserts, they now desire to enroll themselves in the noble army of American humorists-organizing a contingent

Canuck timber, if freed from duty, has nothing to do with the matter, of course! But the South has more virgin timber than is at all necessary to its water courses or its climate. It has millions of acres of hardwood, of pine and cypress forests that would be all the better for judicious thinning. A lumbering industry as great as that of the Northwest could be carried on in the Southern States for all time, supposing it to be conducted with fair intelligence and a smaller degree of the criminal recklessness and destruction that have characterized the operations in the Northern timber States. The proper development of Southern forest resources is a matter of vital importance to this section. Large areas of country that would otherwise continue in a state of wild nature for years to come, might by development become scenes of an hundred active industries. We could furnish the continent with pine lumber, and with all the products of all the wood-working manufactures. It may be conceded that our friends in Grand Rapids, Detroit, and so on, are not particularly blameable in preferring to secure the near-at-hand foreign lumber rather than to face the necessity for removal of all lumbering, wood-working and furniture plants South. Temporarily it might be greatly to their interest to accomplish free trade in lumber, but the country has protected the timber kings of the Northwest from this same Canadian lumber, while they needed or asked for protection, and protection has made millionaires of them and furnished employment to thousands of the laboring class. It has built cities and public works for them, and transformed wide reaches of inhospitable pine barrens into theatres of rushing industrial and commercial activity. Now that the lumber gig is nearly over in the Northwest, we object to the inconsistency which would rob the South of its turn in the game of development under protection. The Michigan, Wisconsin and Minnesota capitalists have had their chance and enriched themselves. It is only just to give us ours, and we are quite willing that the old crowd should come down and share it with us. They will have no other place to go in case the free lumber outrage should be unsuccessful. It will not be successful if Southern Congressmen do their duty in the premises, and do it with anything like the attention to business they show when looking for a re-election.

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Professor Guiffke, of Vanderbilt University, has just completed a qualitative analysis of the chalybeate spring recently discovered at Lakeview. It gives iron, lime, free and combined carbonic acid, silicic acid, soda, potassa, a trace of lithium, barum, magnesia, nitric acid, nitrogen, and a trace of organic matter. The analyst expresses the opinion that this mineral water will be found to be among the most valuable of Southern health waters. The beautiful and convenient resort at which it bursts from the ground is already being visited extensively, and patronage is increasing faster than accommodations can be furnished. Twelve new cottages have just been finished and furnished, and carpenters, painters and furnishers are working hard all the time. Since the Lakeview Springs are only ten minutes ride from the city, the advantages of the place are apparent. The quantitative analyses of the chalybeate water are not vet finished. Reports from Mr. Alfred Brainerd and Professor Guiffke are expected shortly. I have used the water freely. It is strongly tonic and invigorating. It has a glorious effect upon the patient, but must be correspondingly depressing to the hotel keeper. It is the appetite water of the world.

President Raoul, of the Georgia Central, has been telling the Savannah people that the projected extension of the Columbus & Western Railway from Goodwater to Birmingham is being pushed. The engineers are running three lines, and a definite location will be made in time to do a good deal of work on construction during the present season. By building over the 74-mile gap between Birming-ham and Goodwater, Savannah will have the benefit of a direct through line to Memphis, St. Louis and Kansas City. The Savannah News figures it that this new line will give the shortest and cheapest route between those cities and New York. The Kansas City work is going on with vigor. There is nothing new this week relative to the Birmingham and Sheffield scheme, but there is prospect that operations will be begun soon. The heavy work on the Georgia Pacific extension is progressing remarkably well.

The industrial works now in progress are the two plants of the Pratt Coal, Coke & Iron Co. on Village creek, the Thomas plant, and the Williamson and Woodward furnaces. The Smith Sons Gin Works at Avondale are completed, as are also the works of the Avondale Stove Co. and of the Birmingham Bridge & Bolt Co. The Caldwell Hotel is being forwarded. There are rumors that another hotel is for the protection of native forests. The cheapness of hatching, and a new improvement company has been organized to develop some rather large suburban projects on the plan of the successful work in the same direction achieved by the Elyton Land Co.

Iron masters report a steady improvement in the market, which, considering the season, ought to indicate the probability of general activity and better prices in the autumn. Both Eastern and Western demand are on the up grade. I see that the Pittsburgh papers and correspondents begin to notice the presence of our iron in their market-with some deprecatory remarks of course-but they no longer deny the fact that it is there. Several of our producers have had steady and satisfactory sales for some time, both in Pittsburgh and Philadelphia. Prices of pig iron are unchanged from previous reports. Rolling mill products are in active demand. All our manufacturers of pipes, chain, bolts, boilers, machinery, and so forth, are full up with orders. The current condition of the mercantile community is excellent. Interviews of the Birmingham Age with all classes of local wholesale and retail dealers show a satisfied and hopeful feeling, and it may be truly said that the business situation in all lines is more than encouraging. Continued rains have injured the prospects of the cotton crop, but cotton is not much of a dependence in Northern Alabama, which is becoming more and more an industrial region, supplying certain cash markets to the agricultural class for a wide variety of farm products. Dairy and poultry farms and stock farms are growing in numbers all around us, and the tendency to "truck farming" is quite apparent throughout the Birmingham district.

There has been a quiet but persistent movement in real estate during the past week, and values in desirable localities have continued to appreciate. Land on the North Highlands, especially in the vicinity of the Thomas purchases, has gone up at least a thousand dollars an acre during the month of June. The demand for property on the South Highlands has also increased, the steam tramway service of the Elyton Land Co. having bought a large territory of finely wooded suburban lots within a few minutes of the center of town. Speculation has not been as active in high-priced business property, but it is rapidly going out of market for final and costly improvement. Several new wholesale houses are arranging to build; a handsome bank and office block is likely to be erected by one of our home insurance companies, and a new financial institution, not yet gazetted, will probably put up a fine building, to contain, among other things, safety deposit vaults—some-thing much needed. The general offices of two of the railways now building will occupy other expensive structures, plans for which are said to be in preparation. Plans are also being drawn for an Episcopal Cathedral, to be built of stone. The foundation for this edifice is to be laid this year, and the superstructure added later. As the Cathedral, when completed, will not cost much if any less than \$100,000, it may take some time to complete it; but, when finished, it is likely to be a credit to the city and the dioce e. Two stories of the Louisville & Nashville passenger station are up. This building promises to be the handso est passenger station in the South. It is being constructed with equal reference to solidity and beauty. The material is pressed brick, with a lavish use of terra cotta ornamentation. * * By all which MANUFAC-TURERS' RECORD readers may conclude with confidence that Birmingham is essentially a metropolitan place. G. B. WEST.

BALTIMORE MANUFACTURERS' RECORD, send us \$3 and you will receive it regularly for one year or six months for \$1.50.

A Prosperous Virginia Town.

The Rapid Growth of Roanoke from a Small Village to a Great Industrial Center.

[Special correspondence MANUFACTURERS' RECORD.]
ROANOKE CITY, VA., June 28, 1886.

This beautiful little city, nestled down in a charming and spacious valley, surrounded on all sides by towering mountains lifting their peaks skywards, and looking like sentinels on guard over wood and field, is one of the most delightfully situated and picturesque cities in the old commonwealth. To the oldest inhabitant, who looks back but the short space of four years ago, when a little gathering of only some 300 people constituted the entire community, the present city seems like a fabled wonder, or an Arabian Nights imagination. Within the above-mentioned time the population has increased to over 6,000 souls, and is rapidly augmenting. It is chartered as a city with all the necessary adjuncts to a proper government, having its mayor, city council, board of police commissioners, all the police necessary to maintain law and order, and every requisite for a much larger corporation. The corporate limits of the city are 11/4 miles square, and it is situated over 900 feet above the level of the sea, with a climate as salubrious and healthful as could be desired. The hills around are dotted with the elegant and cultured homes of the wealthy, while below may be seen row after row of dwelling houses occupied by workmen employed in the various enterprises of this truly progressive city. There are several banks, churches of various denominations, hotels, five large tobacco factories, three planing mills, and within the corporation also there is an iron furnace of 100 tons per day capacity in full blast. In the business part of the city real estate is high and constantly improving. My attention was called to a lot not very far from the post-office, which, three years ago, could have been bought for \$300, for which the owner has lately declined an offer of \$5,000, and built several stores on it himself, which are all occupied. Roanoke City is, however, in need of certain kinds of industries, and there is nowhere that capital can be invested in this line better than just here. A large wagon factory is wanted; also one for the manufacture of farming implements, reapers, mowers, &c.; a rolling mill and a gas and water pipe foundry could do a thriving business. A tool shop for making miners' tools, mattocks, shovels, &c., is one of the needs; another still is a spoke factory. All such articles are furnished entirely from Northern factories.

One of the most gigantic enterprises the State is located in Roanoke City-the Roanoke Machine Works. They are owned by the Norfolk & Western R. R., but operated under a separate organization, The works cover an area of eight acres, having enormous capacity for work, and employing 800 men. They have all that they can possibly attend to, and are now engaged in filling the contract for 500 cars for the New York, New Haven & Hartford R. R., some 200 of which have been completed. contract was a feather in the cap of this corporation, and must have caused no little chagrin to the car builders on the other side of the Potomac to have it slip through their fingers.

A visit to the machine works will never be forgotten. The minutest details, from the draftman's drawing laying out the work with unerring accuracy to the completion of the monster locomotive is interesting in the extreme. The great Norfolk & Western Railroad has done more to develop this portion of Virginia than all the other agencies put together. Running as it does through the finest grain-growing sections and mining regions of iron, coal and slate, it set itself to work to open up new enterprises, build up new energies, and show the people of the old State what resources they had within them-

selves if they would only make use of them. Immense coal traffic is had on the road, and strange as it may seem, though there is no cotton whatever grown in that part of the State through which the road passes, not less than two hundred and fifty thousand bales were carried over it during the past year, to say nothing of other general freight without stint. Old Virginia is greatly indebted to the Norfolk & Western Railroad,

One of the finest railroad depots South of the Potomac is here, and is used by the Norfolk & Western and the Shenandoah Valley roads. The general offices of these companies are in a most superb building adjacent, built in the Queen Anne style of architecture. The Hotel Roanoke, a charming place of resort, was built by the Norfolk & Western Railroad. It is situated on the crest of a gently rising hill, about 200 yards from the depot, surrounded by a superb lawn velvet sward, with fountains, beds of lovely flowers, and ornamental trees. The hotel has spacious porticoes all around it, with honeysuckle and other beautiful running vines twining themselves about the The hotel, at present, is posts and railings. full, or nearly so, having many guests who have fixed themselves in this health-giving resort for the summer. Four years ago the site of Hotel Roanoke was a corn The land around Roanoke City is very fertile, producing all cereals in great abundance. This is also a great stock-raising section. An independent railroad to be called the Roanoke Southern has been surveved between Roanoke city and the North Carolina line. It will have its terminus at Atlanta, Ga. A corps of engineers will be placed in the field this week to survey a road between Roanoke city and New Castle, Craig county, Va., to be called the Craig & Roanoke R. R. Some 30,000 acres of mineral land have been subscribed by Craig county to the building of this road, from which some \$90,000 can be realized. distance between the two points is twentyeight miles. The rails have been offered by a prominent railroad, while the ties have already been given by the citizens of the two counties. The road can thus be built through the best mineral, iron, manganese, and slate lands in the State without mortgaging a single mile of road. Negotiations have recently been made with parties in Cincinnati for putting up a large zinc furnace at Roanoke City. The ores are now being mined and are turning out well. Rorer Iron Company's Furnace, which has a capacity of one hundred tons a day, is situated six miles from Roanoke City, a narrow gauge road connecting it with the N. & W. R. R. at the city.

The Rorer Park Hotel property, including seven acres of land, has recently been pur-chased for a college building, and the institution will be opened for students on October 1st of this year. The citizens of Roanoke city and vicinity have contributed very largely to this noble enterprise. I had almost forgotten to mention that the water used throughout Roanoke City is brought by pipes from a large spring 12x20 feet, which has a capacity of 5,000,000 gallons per day. It was purchased by the corporation for \$35,000. Two large tanks or reservoirs on a hill are kept full, in case of fire, the hill being sufficiently high to give great pressure in feeding the fire plugs. The large spring is all the water works required.

From a statement of the Roanoke Land and Improvement Company it is shown that in 1881 there were only 119 houses, all told, in the then little village. In 1886 there are over 1,300, while the character of the dwellings erected fairly indicates the confidence of the people in the permanency of their city. In view of this rapid stride, and the immense developments that are being made in this section, and considering the enormous country from phich Roanoke draws her trade, one can but wonder why the B. & O. R. R. does not finish its road from Lexington to Roanoke

City, which is already a railroad center. The road is half completed, including bridges and culverts, with only twenty miles more to finish it.

Why it is not pushed is a mystery, when so much business could be done, which would go direct to Baltimore, but which Philadelphia is now gobbling up over the Shenandoah Valley Railroad. The B. & O. needs waking up.

W. M. P.

Improvement of the Warrior River.

Some months ago our Birmingham correspondent, in one of his letters, said:

"Engineers familiar with the subject assure me that, even if rendered nominally navigable, the Warrior river could never be made to realize the dreams of the cheap coal transportation people. Through its sluggish length, it would require the strongest tugboats to drag coal barges, and not more than two could be pulled at a single tow."

Mr. W. C. Jemison, mayor of Tuskaloosa, Ala., believing that Mr. West was in error, wrote to Colonel H. Harding, the engineer in charge of the improvements of the Warrior river, for information. Colonel Harding in his reply makes a very favorable showing for this river, putting the cost of shipping coal down the Warrior, when fully improved for navigation, from Tuskaloosa to Mobile, at 23 to 35 cents per ton.

Some enterprising citizens of Abingdon, Va., not willing to wait for foreign capitalists to come in and develop the resources of their country, have organized the Clinch Valley Railroad Co., to build a railroad through a section rich in agricultural and mineral resources. Southwest Virginia is a country of wonderful mineral wealth, and when opened up by railroads and its advantages fully made known, is certain to attract the attention of capitalists. It is quite probable that there are a number of points in that region equally as well situated for making cheap iron and for becoming a great industrial center as Birmingham. So far the Norfolk & Western Railroad has been the main, in fact almost the only corporation actively at work in developing the resources of Southwest Virginia and bringing them to the attention of Northern capitalists. They have been instrumental in drawing an immense amount of money to that section, and now that the Cripple Creek branch has been opened, they will doubtless be able to do a still greater work in this direction.

The business men of Abingdon have undertaken a good work. If they will push it forward to success, their enterprise will result in much good, not simply to Abingdon, but to that whole section.

A TOBACCO barn for curing tobacco at much less expense than by the old methods has been invented by W. H. Snow, of High Point, N. C. The heavy cost of curing tobacco has been a severe drain on the farmers, and if Mr. Snow has devised a barn which will, as he claims, very largely reduce this cost of curing, and also make it unnecessary to lay out as much money at the start in building one barn for about every three acres of land in tobacco, his discovery will prove of great value to tobacco raisers.

THE LAND OF THE SKY.

Asheville and its Future-The Magnificent Battery Park Hotel.

[Special correspondence MANUFACTURERS' RECORD. ASHEVILLE, N. C., July 2, 1886.

The cosmopolitan character of the population of this city has been well illustrated several times this week. Last Monday night the sons of South Carolina residing here gave a banquet in honor of the anniversary of the defense of Fort Moultrie. Among the guests were former citizens of many other States, and officers of the regular army and navy. Last Tuesday a delegation of gentlemen from Knoxville was entertained by Ashevilleites, who represented two-thirds of the States and territories. In the Northern Settlers' Association are men from nearly every State north of the Ohio and Potomac rivers. While the popul lation is thus composite, yet it is probably more distinctively American than in any other place of its size in the land. Its inhabitants were with few exceptions born in the United States, while nearly all the latter were natives of Great Britain. There is no such preponderance of people from any one State as to give them the lead in business or social life, hence those are foremost whose talents and energies entitle them to the leadership. Wealth is not concentrated in a few hands, and there are none of the shoddy family who have acquired riches rapidly, without knowing how to employ them wisely. Nearly all in this community of 6,000 people are engaged in some useful avocation, and the man who works is esteemed, while the drone is ignored. The standard of public opinion concerning individuals is usefulness. Lineage and social position are not despised, but the first question concerning every new comer is, "what can he do?" The man who can establish a new industry, or turn to good account any of the raw materials with which this country abounds, is much more honored than one who can only turn fine periods and talk grandiloquently of the beauties of this "land of the sky." The day of the men who can do nothing but "talk for Buncombe" has gone, never to return. This holds good not only in Asheville, but throughout Western North Carolina, and it is rapidly getting to be the fact in the entire State. The stump speaker who relies upon appeals to sentiment, stands little chance when antagonized by one who deals understandingly with practical affairs. Impassioned oratory answers well enough for independence and memorial day addresses, but at all other times it fails to excite the people. The shrewdest politicians in the State have seen this tendency for some time, and have studied practical subjects carefully, that they might discuss them intelligently when making their biennial appeals to the public. These things are indications of the progress this State is making-a progress that will certainly put North Carolina in the same relation to the South that Illinois holds to the Northwest.

The situation of Asheville is such that nothing can interfere with its steady and healthful growth. By or before 1895 this will be a city of sixty instead of six thousand inhabitants. The causes which will contribute to this increase can be seen by all who will intelligently search for them. The principal ones may be briefly stated. As was said in a former letter, Asheville has an equal right with Atlanta to the title of "The Gate City," as the former is the gateway to the Gulf States, so this is the door through which the West can most expeditiously and cheaply conduct its trade with the West Indies and with the South-Atlantic States. The completion of the Asheville & Spartanburg Railroad brings into operation all the separate links of a system that will make Charleston the seaport and Asheville an interior distributing center for West

India goods, and that will enable Knoxville, Cincinnati and other cities west of the Appalachian chain to build up a direct trade with the Carolinas and the Indies. But Asheville has other aids to her prosperity. The Western North Carolina Railroad, which was the first to climb these mountains and to open up her highway to the sea, will have, as a part of the great Richmond & Danville system, much to do with this city's future. It has always been the policy of that company to develop the resources of the country raversed by its roads. To this end it has, at great cost, gathered specimens of all the natural resources of the several States through which its lines run, and has exhibited them at the Atlanta, Boston, Denver and New Orleans Expositions; and it is now preparing to open a permanent exhibition in its new headquarters at Washington, and to send a duplicate display to the American Exhibition in London. The same farsighted policy that this company has pursued in calling public attention to the undeveloped wealth of the country tributary to it, has governed its action in other respects. In its endeavors to increase its business and the resultant profits, the management has done all in its power to aid those who were trying to establish new industries in its territory.

The reorganization of this system, which lately took place, will enable the management to continue this wise policy, and to make it more effective then ever. Asheville is already one of the important centers of this company's traffic. Soon this importance will be greatly augmented. The Murphy division of the Western North Carolina Road has been built to Jarrets, a place on the Nantahala river, about thirty miles from its ultimate terminus. The heaviest part of the work has been done. A year hence the road will be finished to Murphy, and then Asheville will have a short line to Georgia and the Gulf States. The importance of this connection can scarcely be overstated. Not only will it bring thousands of Gulf State citizens as summer visitors to the mountains, but it will open up many large and profitable markets for the orchard and farm products of all this section. The cities of Georgia, Alabama and Florida now get their best winter butter, mutton, beef, apples, Irish potatoes, onions, cabbages and various esculent roots from the North and Northwest. The annual consumption of these is enormous. These trans-montane counties can supply all these, when the Murphy connection is completed, at lower prices than those States now pay for them, and at greater profit to the producers. The opening of these markets will lead to the establishment of many new and extensive manufacturing industries suited to these mountain counties. The abundance of chestnut, oak and sumac will lead to the establishment of large tanneries, and the inexhaustible supply of poplar and other suitable woods will, with cheap transportation assured, create factories for the making of tubs, buckets, water pails, and of all kinds of cooper's wares and wooden household utensils.

It is odd and yet suggestive, to find in the little stores scattered among these forestcovered mountains, Chicago brooms made of Kansas grown broom corn, whitewood water buckets from New England, Maine shoe pegs, and Pennsylvania clothes pins. And it is equally suggestive to see plough points and horse shoes forged at the North, for sale in stores, underneath which are beds of as rich iron ore as can be found anywhere in the world. But the railroad that opens up a market for all these things will also bring people into the country with the money and skill needed to establish these and other industries, who will avail themselves of the unused water powers, and of the wealth of raw material with which this section is filled, and make the whole country, from the French Broad to the Hiawassee. ring with the music of their diversified

The people of Asheville are wide awake to the future that lies before them, and not they only, but many Northern and Southern capitalists see it, and are making investments because of it. The Southern Improvement Company, a wealthy Northern corpo ration, having finished the splendid hotel at Warm Springs, is now engaged in an enterprise here that will add greatly to the beauty, as well as to the taxable wealth of the city. This company purchased an extensive tract of land within the corporate limits between the built up part of the town and the railroad. This they are grading and dividing into blocks, on which they are erecting tasteful cottages. Their streets are broad and skillfully constructed, with due provision for drainage. The slope of the land is such that when these improvements are completed, travellers looking from the car windows will see a series of terraces, dotted with pretty residences. This will be when finished a most important addition to the city in many respects; but its importance is overshadowed by another enterprise that will be completed before the MANUFACTUR-ERS' RECORD containing this letter goes to

Not far from, and somewhat northwest of Courthouse square is a high symmetrical hill, that, ever since the war, has been called Battery Porter. From its summit the finest views are obtained of any within the city. About a year ago, Colonel Frank Coxe, a wealthy South Carolinian who has been accustomed to spend his summers here, bought this hill for the purpose of building a hotel on its crest. This intention has been executed, and Battery Park Hotel now crowns the apex of the hill, one hundred feet above the streets of Asheville, and 2,700 feet above tide water. This hotel is a frame building, four stories high, with a frontage of 200 feet, and a depth of 175 feet. Of the outside of this fine building, the Asheville Citizen, in a recent issue, gave the following description: "The architectural effect is admirable. The style is that known as Queen Anne, which admits of all those harmonious irregularities which mark that style and make it so pleasing; long and broad piazzas, projecting balconies, picturesque gables, clustered chimneys, retreating angles, romantic towers, quaint though ample windows, and rich though not glaring coloring toned down to blend harmoniously with the surrounding landscape. It stands conspicuous in its size and beauty, a striking object from every point of view, a fitting diadem for the Queen City of the mountains." No money has been spared to make the interior as comfortable and delightful as the exterior is attractive and beautiful. The kitchen, pantry and laundry are fitted with the latest and most approved appliances; bath rooms, closets and all modern conveniences are provided on every floor. An Otis hydraulic elevator car, with an ebony and gold finish, runs from the first to the top floor. The house is heated by steam, and in all the rooms are hearths on which fires can be lighted at pleasure. The Edison system has been adopted, and 275 incandescent lights will illuminate the house. Native hard woods have been used for inside finishing-chiefly yellow pine and cherry. All the furniture is of native woods, and was made by the Wilson Brothers, of Morganton. Black walnut, white oak, cherry, and other hard woods, carefully selected for their beauty of grain, and exquisitely finished, attest the skill and taste of this young firm, and demonstrate that North Carolinians have no need to go outside of their State for fine furniture. Every door in the house was made at a local factory, and all the mantels at one in Hickory. Colonel Coxe took a patriotic pride in having this hotel devised by a North Carolina architect, built by local workmen of home materials, and furnished by local factories. He regretted that the marble on the Nantahala could not yet be procured; but that being impossible, he contracted for his hearth stones, and

for the square blocks with which the floor of the office is paved, with the American Marble Company, of Marietta, Georgia, which quarries its material just across the State line from Cherokee county. This pavement is composed of alternate blocks of white and variegated marble, one foot square and one inch thick, bordered by slabs of pink marble a foot wide. At one end of the office is an immense fire place of pressed brick-as large and lofty as that one which has been admired by thousands in the waiting room of the Pennsylvania Railroad in Philadelphia, but far superior to that in artistic design and execution. This exquisite piece of masonry, the work of an Asheville citizen, would compare favorably with the finest work in the Seventh Regiment Armory, New York, or in any of the homes of Boston's merchant princes on Commonwealth avenue. Behind the house, in a detached building, are the servant's quarters and the bowling alley. Other buildings connected with the main structure contain various offices. In the basement of one of these are the engines for pumping water to every floor, and for running the dynamo. There is also a tank with a capacity of 175,000 gallons, with a patent filter attachment, which frees the water from all impurities. So much for the house itself.

That any one should think of constructing such a hotel as has described in these mountains, would, but a few years back, have led people to infer that there was something cranky, or at least visionary, in such a man's make up; but times have changed, and now good business men will consider this a judicious undertaking, and a paying investment. Such, at all events, will be the prevailing opinion in New York and New England business circles, when it is known that this hotel has been leased for a term of years by Mr. Charles H. Sonthwick, who made a first-class reputa-tion as "mine host" of the Oakland Hotel on St. Clair river, Michigan, and more recently became widely and popularly known as the landlord of the Hotel Rushmore, at Oriental Park, Mamaroneck, a favorite resort for New Yorkers, on the shores of Long Island Sound. Colonel Coxe and Asheville are alike to be congratulated on securing this gentleman as proprietor of the Battery Park Hotel, for his name will draw to Asheville many hundreds of people who never before thought of visiting these mountains.

It would be a serious omission to write only of the hotel and its interior, and to omit all mention of the beauty of its surroundings, and of the grandeur of the scenery as seen at all points of view from its broad verandahs and balconies, and from its lofty observatory, were it not that all these have been so often portrayed by the best descriptive writers, that it would be but repeating an "oft told tale." Moreover. there will come as a guest to this hotel, about the middle of this month, one whose pen pictures of scenery surpass the delineations of all other men living, and who speaks through the press of the land to a greater audience than any other. When Rev. Dr. Talmage has been here long enough to drink in the inspiration of these magnificent mountains, beautiful valleys, and broad sparkling rivers, the world will have them pictured with a vividness and trueness to nature that will make them as enduring in the memory as though graven in adamant. Let us leave to the Reverend Doctor the pleasant task of portraying the beauties of this land of Beulah, while the MANUFACTURERS' RECORD, faithful to its self-imposed mission, shall continue its good work of helping to develop this and every other part of the New South. B. S. P.

ADVERTISERS wishing to reach the manufacturers of all classes, mining companies, steel, iron and hardware dealers of the entire South, cannot find a better medium than the MANUFACTURERS' RECORD.

The Flat Top Coal Region. The Great Coal Mining Center of Virginia.

[Special correspondence MANUFACTURERS' RECORD.]

POCAHONTAS, TAZEWELL Co., VA., J July 3, 1886.

After a most charming ride of 120 miles distant from Roanoke, through one of the grandest and most picturesque sections of the entire mountain region of this State, I find myself at Pocahontas, the chief town in the great Flat Top coal fields, and the present terminus of the New River Division of the Norfolk & Western Railroad. To describe the scenery along this line, as the road skirts the broad and swift running New river, would require the deft pencil of the gifted artist to do the subject justice. It presents a background of such beauty and strength that it may be filled in with any amount of rhetorical coloring; and the picture thus drawn, and supplemented by the most fertile imagination of the reader, would then fail to grasp the full idea of the wondrous grandeur of this one of Nature's masterpieces.

At Roanoke I was most fortunate in meeting with Mr. J. H. Bramwell, superintendent of the "Bluestone Coal Co.," and through his extreme kindness and courtesy I was enabled to visit the mines in the Bluestone region. At his invitation I went to Bramwell, in Mercer county, W. Va., and was most handsomely entertained for several days at the residence of Col. C. H. Duhring, president of the Bluestone Coal Co., where kindness and hospitality were bestowed with lavish hand, and with such gentle grace as to make one feel immediately at home. Accompanied by Mr. Duhring, Jr., I visited first the colliery of the "Caswell Creek Coal & Coke Co.," on Simmons' creek, one of the many tributaries of the Bluestone river. After getting our tiny miners' lamps ready for service, we started into the mine with the mine boss for a guide, and very soon were in the bowels of old mother earth. Amid the darkness, which truly could be felt, far off in the distance could be seen the feeble sparks of lamps moving about like fire-flies, while from the walls on either side of us we received answering flashes to the rays of our own lamps from the thousands of "black diamonds" of marvellous brilliancy and beauty. It is a difficult matter exactly to describe one's feelings when visiting a coal mine for the first time, but every step is fraught with scenes surprising and exceedingly interest-The temperature was delightful, ining. stead of being uncomfortably cold, as I had suspected. While within the mine two "shots" or blasts were fired, when the old mountain seemed to groan like some stricken monster, the reverberations passing through the various chambers like the roll of very near thunder, giving one an exceedingly wierd feeling. In about 15 minutes the smoke from the first "shot" passed by us with lightning speed, seeking an outlet at the mouth of the mine. We were soon at the spot and saw the effect of the shot. Immense masses of coal had been thrown in every direction, to be broken up into smaller pieces for shipment, while the fine coal or slack is sent to the ovens to be manufactured into coke.

The seam in the mine of the "Caswell Creek Colliery" is 8 feet thick. The coal is semi-bituminous, the equal of the best Clearfield coal, and is considered the best article for steamers' use and the production of first-class coke for blast furnaces in the country. The proof of this is the immense demand for it everywhere. The Caswell Creek Colliery is owned by Messrs. Freeman & Jones, and is situated on Simmons' creek, on property leased from the Bluestone Coal Co. They commenced the shipment of coal in December, 1884.

They mined and shipped in 1884...... 414 tons 1885...... 56,859 "
" " " to July 1, 1886. 45,000 "

The output of this mine is 600 tons per

"The Coal Operation Sterling Colliery" is another lease from the Bluestone Company, and is owned and worked by Messrs. Jno. Cooper & Co., on Mill creek. They commenced work in November, 1884.

They mined and shipped in 1884...... 2,352 tons.
41 42 44 44 1885....... 60,132 44
44 44 to July, 1886... 40,000 44

102,483 "

This firm are coal operators on the C. & O. R. R., in the New River district. They own three mines there, with a combined capacity of 1,500 tons per day. They are also preparing to open a second mine in the Flat Top lands, and will erect 100 coke ovens. They will have a capacity at this mine of 600 tons of coal and 150 tons of coke per day.

"The Defiance Colliery," owned and operated by Messrs. Wm. Booth & Co., is also on Simmons' creek. They commenced coal shipments in January, 1885.

They mined and shipped in 1885...... 33,320 tons. to July z, 1886. 34,000 "

67,320 "

"The Buckeye Colliery," Simmons' creek, has just been opened by Messrs. Stevenson, Mullin & Co., and will commence coal shipments July 15th inst. They are erecting 60 coke ovens, and will have a capacity of 500 tons of coal per day, and 100 tons of coke. This is the first lease made this year in the Bluestone region.

On Flipping creek, six miles from Simons' creek, three other leases are to go in. and they will all be shipping by January 1, 1887. These will give eight coal leases and 200 coke ovens to the Flat Top Coal Co., whose combined outputs per year, when working at their respective capacities, will be 750,000 tons, all due allowances being made for interruptions and other incidentals to mining operations. This is something marvellous to contemplate. The wages of miners are higher here than in any other district east of the Mississippi. They are well able to live comfortably, and, with ordinary economy, save something each year. A good miner can earn from \$40 to \$60 per month over all his mining and home expenses, as the pay-rolls of the several companies will attest

No better possible field can be offered for the intelligent and thrifty miner than this remarkable Flat Top coal district, where good wages, comfortable homes and pleasant surroundings await them. As good men of this class are invariably in demand and can always find employment, the turning of the faces of miner emigrants to this section would be doing two good things—one, the putting of the man where he can do the most good; and the other, the supplying of a very much needed want in this great labor field.

At the Pocahontas mines the work that is done is simply fabulous. One thousand miners are employed in the three openings. The ordinary output from a single opening is 2,500 tons daily, but the greatest ever made from a single opening was 3,519 tons in one day-the largest record of any known mine. If demanded, 5,000 tons per day could be taken from two openings. To show the rapidity with which work is done at Pocahontas, I saw 25 cars dumped on the tipple and run on a siding in six minutes by the watch. Fifty tons of coal dumped in that space of time is most extraordinarily quick work. I would scarcely have believed my own eyes if the time had not been kept by two watches. These mines are said to have some 40 miles of railway track in them. The pit cars are pulled in and out by "locays" or small locomotives, running at a speed of about 20 miles an hour. Here are also 200 ovens for coking the slack coal of the min-ing operations. The lurid fires of these ovens at night produce a most magnificent reflection on the dark background of the sky, which at first is startling. In company with Col. Dodds, superintendent of the Southwest Virginia Improvement Co., and mine boss Mr. Jones, I went about one mile within the east mine, and, seated in one of

the chambers or "offices," we enjoyed a rest and a smoke, I meanwhile listening to a very interesting account of the explosion which occurred two years ago in the very mine in which we were, which resulted in such loss of life. You can well imagine how charming such a story must have been in my then peculiar position.

The Norfolk & Western Railroad is doing its utmost to further these great mining interests, understanding as it does the necessities of the great coal traffic which must of necessity fall into its hands. It is aiding in a most liberal and practical manner all the developments that are being made in these vast and inexhaustible coal fields. The Flat Top coal trade by right belongs to the N. & W., and it will surely be the immense and never-ending traffic of the road. W. M. P.

The West Virginia Tin Question.

MILTON, W. VA., June 30, 1886. Editor Manufacturers' Record:

Although our company is but seven months old, we now own 32,000 acres, and have leased over 2,500 acres. We have an assay furnace, a retort furnace, and a cupola furnace at this place, for the purpose testing the different ores found here. Our assayer, Professor Frank Bosworth, whom we secured from Motana, who has had practical knowledge in prospecting in the Rocky Mountains, and assaying for different companies there for years, has already found, and tested thoroughly, tin, silver, gold, copper and lead in paying quantities, as well as coal; also rubies, which he found in a clearly-defined vein of volcanic ashes, 30 feet thick on the foot-wall of a 9-foot vein of copper ore, which he pronounces a true fissure vein. In the face of unfavorable local criticisms and the adverse report of a professor of mineralogy and analytical chemist, we have gone ahead, and we have now, on our own and leased ground, nine different leads of tin stone, ranging from I to 24 per cent. yield of tin, from which can be taken millions of tons of ore; besides, four iron leads, which range from 20 to 65 per cent, of iron, and coal from I to II feet in thickness, besides the other metals. Our prospector and assayer is still developing, and asserts that this section is as rich in minerals as the Rockies, and that it has more varieties, though harder to find and work, and in a much greater variety of formations. We are awaiting the developments of the Cleveland company who have the new patent process for extracting metals by steam, and now putting up a smelter on the Ohio river, about 30 miles from here. If their process is successful we shall invite capitalists to put a large smelter here. If not, we shall start a small one ourselves, in the near future, on the old plan. Anyone can investigate to their own satisfaction by coming here and seeing the metals taken out by our assayer, and see the ore taken out of the ground. Dr. Robinson, Secretary,

Milton Coal & Tin Co.

Marble Notes.

[Special correspondence Manufacturers' Record.]

MOUSE CREEK, TENN., July 5, 1886.

I am informed that the Concord Marble Co, have leased a fine quarry on Mr. Willson's farm, 4 miles west of Philadelphia, Tenn. They expect to commence work this summer. This ledge of marble extends a distance of 10 or 15 miles, cropping out at least every half mile. Near the railroad in the Sweet Water Valley there is a good quality of red marble which marble men would do well to look after. Col. Sam. Young, Sweet Water. Tenn., can give information about it. We have commenced sawing marble near this place. We have the dove colored and a very dark variety, almost black.

P. N. SHULTZ.

Of Interest to Canning Machinery Makers.

[Special correspondence MANUPACTURERS' RECORD.]

RALEIGH, N. C., June 30, 1886. It is of interest to manufacturers of machinery for the canning of fruit to know that the North Carolina State Horticultural Society is offering a handsome money premium, to be awarded at their coming fair, August 4th and 5th, at Fayetteville, N. C., for the best canning arrangement to be in operation on the grounds. The machinery will be transported free of charge from Baltimore to Fayetteville and return, if desired. This will be a good chance for manufacturers to advertise this line of machinery. At present the Commissioner of Immigration for North Carolina is laboring to induce people in different sections of the State to establish canneries, and he is meeting with much success. If boilers, cans, soldering-irons and such other things necessary for the work are exhibited at the fruit fair, a market may be found for a large amount of this class of machinery. The people of North Carolina are waking up to the importance of saving the fruits and berries that have annually been going to waste. There is right now thousands of bushels of blue and whortleberries that are decaying in the woods of North Carolina. In a week or ten days the blackberries will be going the same way. North Carolina is destined, of these days, to furnish to the world a large quantity of canned fruits and vegetables. Persons wishing information should address Mr. J. T. Patrick, Raleigh, N. C., or S. O. Wilson, secretary, Vineyard, Wake county, N.C.

Ramie and Jute in the South.

The culture of ramie and jute is to be practically tested on a large scale in the South, and in a few years we will probably know whether this business, about which so much has lately been said, is to be added to one of the leading industries of the South or not. Mr. Felix Fremery, of New Jersey, writes from Huntsville, Ala., to the MANUFACTURERS' RECORD, as follows:

"I have started here a ramie plantation from the seed. Some three or four million young plants have been raised and many of them planted. I intend to plant this year, before my return to Newark, N. J., in the beginning of November, some hundred or hundred and twenty acres, and only to stop my commenced work in two or three years, when some 30 or 40 thousand acres of ramie will be under culture in this State—Alabama. I have also under culture about twenty acres of jute, the young plants doing as well as the ramie. There can be no doubt whatever about the success."

THE Baltimore MANUFACTURERS' RECORD is a most valuable agent in Southern development. If the projectors of any enterprise in the Southern States, from building railroads down to the erection of the smallest factory, will inform that journal in a brief communication of their purposes and plans, giving location, design, etc., it will publish them. By this means they are put in immediate communication with contractors and supply dealers and agents which in many instances brings additional capital and skill to the parties originating such schemes as well as facilitating a quick completion of enterprises that are useful and practicable. Its ample pages are well stocked with editorials, correspondence and statistical information presenting the facts bearing on Southern resources which will ere long become the chief corner-stone of the wealth and prosperity of our whole country.-Staunton (Va.) Spectator.

***CONSTRUCTION DEPARTMENT.

E PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

ALABAMA.

The Sheffield Iron & Coal Co. contemplate building a bridge across the Tennessee river at Sheffield, Ala.

A New York syndicate has purchased 800 acres of iron ore lands near Trussville, Ala., where, it is reported, they will build an iron furnace.

Isaac I. Moses, Sr., G. M. Williams, M. M. Hirsch, J. M. Baker, A. J. Digby, M. T. Bergan and Isaac I. Moses, Jr., have incorporated in Alabama, the Columbus & Montgomery Short Line Railway to build a road from Columbus, Ga., to Montgomery, Ala. The capital stock is \$1,000,000.

A stock company will be organized at Birmingham, Ala., by J. W. May, of Talladega, and others, to manufacture a patent medicine.

Mr. Flowers will erect a mill at Jones Chapel, Ala.

M. J. Congdon of Knoxville, Tenn., and John Connelly of Memphis, Tenn., have received the contract to build 20 miles of the Memphis & Birmingham Railroad, previously reported.

The Birmingham Ice Factory Co., Birmingham, Ala., previously reported as proproposing to increse capital, expect to enlarge works, add refrigerating room, establish a branch factory, &c.

Thomas Bowey & Co., Tuskaloosa, Ala., will not build a second saw mill yet, but

Land has been purchased near Jacksonville, Ala., for a saw mill.

The Cahaba Coal Mining Co., Woodstock, Ala., will spend about \$60,000 in opening another mine at Blocton and building two miles of railroad.

J. W. Dimmick is president; Campbell Brown, vice-president; C. A. Lanier, secretary and treasurer, and H. M. Pierce, general manager of the Calera Furnace & Charcoal Co., reported last week as organized at Calera, Ala., with a capital stock of \$100,000. The company will soon begin work on 48 charcoal kilns and a 50-ton iron furnace.

T. M. Reynolds will move his saw mill from Montevallo to Calera, Ala.

ARKANSAS.

The Ouchita Lumber Co., previously reported as incorporated at Hot Springs, Ark., with a capital of \$100,000, have commenced erecting the buildings at Malvern for their large lumber mills.

A. M. Beam has purchased the saw mill of Mr. Pumphrey at Hot Springs, Ark., and will move it to Bear.

The Eureka Springs Gas Light Co., capital stock \$30,000, has been incorporated at Eureka Springs, Ark., with Powell Clayton, George O. Lenbarger, M. L. Andrews, Theodore Plate, John B. Quigley and others as directors

McCarthy & Joyce will build a large warehouse at Little Rock, Ark.

The Little Rock & Hot Springs Railway Co., capital stock \$500,000, has been incorporated in Arkansas, with R. A. Edgerton, as president; C. T. Walker, treasurer, and E. J. Butler, secretary.

Dr. Masterson is preparing to erect steampower machinery at his mill near Crystal Springs, Ark.

Ferguson Bros. will rebuild their lumber mill at Little Rock, Ark., reported this week as burned.

FLORIDA.

Bids for erecting a public building at Pensacola, Fla., will be received until July 31 by W. H. Hutchinson.

Mr. Gibbert has erected a saw mill at Mount Dora, Fla.

Coombs & Co. have improved their lumber mill at Apalachicola, Fla., at a cost of about \$12,000.

The Cypress Lumber Co. are erecting a planing mill near Apalachicola, Fla., it is reported.

It is stated that Gainesville, Fla., will issue \$30 000 of bonds to build water works.

John G. Sinclair, E. Kuhl, John W. Weeks, N. N. Mills, Thomas C. Grey and others of Orlando, Fla., have incorporated the Oakland, Orlando & Atlantic Railroad Co., capital stock \$100,000, to build a railroad from Orlando to the Atlantic ocean.

A. C. Harper will erect a saw mill at Broward, Fla.

GEORGIA.

The Americus, Preston & Lumpkin Railrood, previously reported as being extended from Lumpkin to Hannahatchee, Ga., will also be extended from Americus to the Ocmulgee river. The company will build car repair shops at Americus at a cost of \$15,000.

A \$6,000 Baptist church will soon be erected at Savannah, Ga.

James G. Barrett, Ben Hill, Ga., whose saw mill was lately burned, is now rebuilding at a cost of about \$3,000.

James McCosh, La Grange, Ga., previously mentioned as likely to build a cotton mill, will not do it now, but is building a flour mill.

T. F. Shackleford, Enon Grove, Ga., will rebuild his grist mill lately burned.

W. F. Bowe has received the contract to erect several buildings at Atlanta, Ga., for the United States Government, to cost \$61,120.

Rounsaville & Bros., Rome, Ga., will erect a \$15,000 brick warehouse.

KENTUCKY.

The Chesapeake, Ohio & Southwestern Railroad Co., will spend \$40,000 in erecting car sheds at Louisville, Ky.

The Jeffersonville, Madison & Indianapolis Railroad will build several large freight buildings at Louisville, Ky.

The Economic Heating Co., Louisville, Ky., previously reported, have commenced boring wells in Meade county.

A \$22,000 church is to be erected at Louisville, Ky., by the Baptists.

W. G. Hunter, J. W. M. Field, J. A. Fuqua, M. V. Monarch, C. D. Jackson and others have formed at Owensboro, Ky., the American Mining and Milling Co., capital stock \$500,000, to develop gold and silver mines in Lincoln county, New Mexico. The principal place of business is to be at Owensboro.

The Excelsior Trunk Top Co., capital stock \$25,000, has been incorporated at Louisville, Ky., to manufacture trunks, with John L. Chilton as president; James F. Osborne, vice-president, and Charles Hungarland, secretary and treasurer.

The Lithgow Manufacturing Co., Louisville, Ky., J. L. Lithgow, president, have increased their capital stock from \$100,000 to \$300,000.

Mason, Valz & Co., Quincy, Ky., will develop the stone quarries in Lewis county, previously reported as to be worked by Mason & Co.

A \$30,000 building is to be erected at Anchorage, Ky., by the Anchorage Lunatic Asylum. Charles Akers, Louisville, has the contract to furnish 1,000,000 bricks.

A steam laundry has been erected at Henderson, Ky., by Fred. Mayer.

LOUISIANA.

The American Fibre & Decorticating Co., capital stock \$30,000, has been incorporated at New Orleans, La., with B. F. Jones as president; C. H. Moore, secretary and treasurer, and Ed. Enderle, general manager, to cultivate and manufacture ramie and other fibrous plant.

Robinson & Lacey, of Grand Rapids, Mich., have purchased 22,000 acres of timber land in Louisiana.

The Calcasien Artesian Well Co., capital \$5,000, has been organized at Lake Charles, La., to sink artesian wells, with William A. Haskell, Sr., as president; W. H. Knapp, secretary, and A. C. Gordon, treasurer.

Petit & Rob, New Orleans, La., will erect a wood working shop.

The Southern Brewing Co., New Orleans, La., are building an additional brewery, five stories, 62x64 feet, to cost about \$80,000. A large bottling establishment, 50x135 feet, has just been completed.

Theodore Guyol, George H. Morgan, S. E. Delano, A. B. Richardson and others will incorporate at New Orleans, La., the St. Bernard Slaughter House, capital stock \$100,000, to establish a large slaughter house near that city.

Daniels & Schleider have established a large bottling establishment at 744 Tchoupitoulas street, New Orleans, La.

MARYLAND.

A bill has been introduced in the Senate at Washington, D. C., to incorporate a company to build a hotel to cost about \$2,000,000.

A. S. Abell, Baltimore, will build a 5-story varehouse.

Matthai, Ingram & Co., Baltimore, have enlarged their tinware factory by an addition 78x110 feet.

William Barcus is putting new machinery in his grist mill at Church Hill, Md.

Roller process machinery is being put in the flour mill of Dan. Cameron, Walker's Switch, Md. The capacity will be about 30 barrels every 24 hours.

B. G. & J. C. Smith have erected a 30barrel roller flour mill near Glen Cove, (P. O. at Conowingo), Md.

The George P. Whitaker Co. have erected several new buildings at their furnace at Principio, Md.

MISSISSIPPI.

A stock company will be organized to build a creamery at West Point, Miss.

The Natchez, Jackson & Columbus Railroad is to be extended from Jackson to Columbus, Miss., and the gauge will be made standard. W. T. Martin, Natchez, is president.

Brown & Archer, Greenville, Miss., previously reported as intending to start a brick yard at Johnsonville, Miss., will also put up a saw mill. The enterprise will be known as the Johnsonville Manufacturing Co.

The Mississippi Valley Railroad will soon begin work on a freight car repair shop, 60x 250 feet, at Vicksburg, Miss. The Port Gibson Cotton Mills, Port Gibson, Miss., lately reported as negotiating for machinery for their mill, have purchased \$24,000 of machinery, which will be put in at once.

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A cheese factory will be added to the creamery lately reported as being erected at Aberdeen, Miss.

It is stated that G. W. Robinson, Pensacola, Fla., has bought the De Smet lumber mills at Moss Point, Miss.

NORTH CAROLINA.

W. E. Bevill, J. L. Crug, Samuel Mitchell and C. N. McAdoo have formed a stock company at Greensboro, N. C., to build a tobacco factory.

Alfred Webb & Co., Chattanooga, Tenn., have received the contract, at \$9,965, to furnish a steel water tank for the water works at Asheville, N. C., previously reported.

It is stated that new machinery will be erected at the Hunnicut gold mine in North Carolina, with a capacity to mine 50 tons of ore daily.

It is reported that B. and J. A. Davidson will build a cotton mill at Gibsonville, N. C.

Wilson & Reid, Morganton, N. C., are building an addition to their furniture factory.

The contract to build the new jail at Wilmington, N. C., previously reported, has been let to John D. Fred, of Macon, Ga., at \$14.807.20.

SOUTH CAROLINA.

C. C. Miller, representing the Thomson-Houston Electric Light Co., is trying to organize a company at Columbia, S. C., to erect a plant in that city.

N. E. H. Dopson & Co., Cummings, S. C., have rebuilt their saw mill.

TENNESSEI

M. B. Neely, previously reported as intending to build a flour mill in Pulaski, Tenn., has purchased the machinery, but wants machinery for grinding corn in ear and cotton seed into meal. L. W. McCord, of Pulaski, is associated with Mr. Neely.

J. M. Scott, Germantown, Tenn., whose mill and gin was reported last week as burned, will either rebuild or sell to some one else who will.

The planing mill previously reported as being built at Pleasant View, Tenn., is being put up by Hewton & Buoford.

Mayberry Bros, contemplate starting a grist mill at Saw Dust Valley, Tenn.

II. E. Pendleton and others, Nashville, Tenn., will probably organize a \$100,000 stock company, to manufacture drugs, patent medicines, &c.

P. H. Carroll, S. Sharples, E. S. Lupp, J. M. G. Toney, Richard Wright and others have incorporated at Nashville, Tenn., the Walton, & Nashville Co-operative Coal & Manufacturing Co.

TEXAS.

The San Antonio & Aransas Pass Railroad Co. have increased their capital stock to \$5,000,000.

A hotel desk factory will be started at Fort Worth, Texas, with John R. Rose as manager.

T. S. Talley, Throckmorton, Texas, previously reported as constructing water works, is putting them up for private use only.

LOCKWOOD, GREENE & CO.

MILL ENGINEERS

Office, 65 Westminster St., Providence, R. I., Carefully prepared plans, specifications and estimates furnished for the construction, equipment and organization of new mills and the revision and improvement of old.

experiment and research in this direction

Sherman, Texas, has decided by a popular vote to build the water works to cost \$70,-000, previously reported.

The Weatherford Castor Oil Co., Weatherford, Texas, previously reported, have purchased the machinery for their mill, and mmenced work on a stone building 54x107 feet.

Crutcher & Harrison, Longview, Texas, whose planing mill is reported in this issue as burned, will rebuild immediately, having already ordered new machinery.

John T. Williamson has received the contract to erect a \$10,000 school building at Norfolk, Va.

Thomas Breen, Knowlton, Pa., offers to erect car building works at Portsmouth, Va., if the citizens of that city will subscribe \$100,000.

A \$20,000 building will soon be erected by the Young Men's Christian Association, Norfolk, Va.

John F. Chamberlin will erect a large hotel at Fortress Monroe, Va., if permit from the government can be secured.

The contract to build the iron bridge across the Dan river at Danville, Va., previously reported, will be let to the New Jersey Steel & Iron Co., Trenton, N. J.

A company has been chartered at Danville, Va., to build a street railroad. Capt. Robertson can give information.

It is stated that the Victoria Furnace Goshen Bridge, Va., has been leased by C. P. Huntington and others, of Pennsylvania, who will repair it and put it in operation.

W. L. Fleming, E. M. Foster, M. Hesberg, W. P. Hancock and others have incorporated at Richmond, Va., the Richmond Tobacco Co., to manufacture all kinds of to-The capital stock is to be not less bacco. than \$10,000 nor more than \$50,000. W. L. Fleming is manager.

The Union Mills Manufacturing Co., Union Mills, Va., have purchased some new machinery for their flour mill.

E. D. Kincheloe will erect a new flour mill at Delaplane, Va. The machinery has been contracted for.

WEST VIRGINIA.

The New England Coal Co. will erect 50 coak ovens at Fairmount, W. Va.

The Piedmont & Cumberland Railroad Co., previously reported as incorporated in West Virginia to build a road from Piedmont, W. Va., to Cumberland, Md., have organized at Piedmont, with Stephen B. Elkins as president, and H. C. Buxton, secretary and treasurer. The capital stock has been increased from \$500,000 to \$650,000.

W. B. McClure will remodel his flour mill at Oceana, W. Va., and put in new machinery and a turbine water wheel.

G. G. Farrance, Fairmount, W. Va., will remodel his flour mill.

The Evans Seed Oil Co., of Cleveland, O., are negotiating for the erection several oil mills in the South, under their new process for the extraction of oil.

BURNED.

Payne & Stewart's gin, at Owlet Green, Texas; loss \$4,000.

The gin and saw and grist mill of Chappel & Flemings, Liberty Hill, Ga.

The lumber mill of Ferguson Bros., Little Rock, Ark.; loss about \$20,000.

The tobacco factory of W. M. Fields, near Chamblissburg, Va.; loss \$1,500.

The shingle mill of T. A. Brown & Co., Newport, Ark.

The gin of James P. Green, near Perryville. Ala.

The mill, gin and variety shops of Mr. Flemings, in Monroe county, Ga.; loss \$4,000. fore long. JOHNSON CITY FURNITURE Co.

Applegate & Hamilton's flouring mills at Falmouth, Ky.; loss about \$20,000

The gin of M. H. Arnold, Crawford, Ga. The planing mill of Crutcher & Harrison, Longview, Texas.; loss \$5,000. Will be

G. B. McCoy's turpentine distillery near Camden, S. C.

rebuilt immediately.

The saw and planing mill of Samuel R. Perrows, five miles from Beauregard, Miss.

R. E. Jones' mill, near Goldsboro, N. C. The planing mill of Smith & Co., Apalachicola, Fla.; loss \$3,000.

To Enlarge Works.

BIRMINGHAM, ALA., July 1, 1886. Editor Manufacturers' Record:

Our capital is to be increased for the puroose of increasing works, adding a refrigerating room for storage of beef, fruits, &c., &c., and opening another branch business. BIRMINGHAM ICE FACTORY Co.,

W. J. RUSHTON, Manager.

Building a Tobacco Factory.

GREENSBORO, N. C., July 2, 1886. Editor Manufacturers' Record:

We are building a tobacco factory, the stock being owned by J. L. King, C. N. McAdoo, S. S. Mitchell and myself.

W. E. BEVILL.

TUSCALOOSA, ALA., July 1, 1886. Editor Manufacturers' Record :

We may build another saw mill and shingle mill, but not at present. Cannot tell you anything definite about it.

THOS. BOWEY & CO.

Building Foundry and Machine Shop.

SELMA, ALA., July 1, 1886. Editor Manufacturers' Record :

It is our intention to build a brick foundry 40x100 feet, and a new machine shop same dimensions, and use our present buildings for other purposes connected with our busi-Union Iron Works Co.

To Build Flour and Feed Mill. Machinery Wanted.

PULASKI, TENN., July 3, 1886. Editor Manufacturers' Record :

Mr. M. B. Neely, of Kentucky, and myself will build a 75-barrel all roller process mill here at once. The machinery has already been bought and paid for, and the mill building will be erected within the next few weeks. The capital invested will be about \$15,000. We contemplate grinding corn in the ear and cotton seed into meal for cow feed, if we can find the proper ma-L. W. McCORD. chinery.

SELMA, ALA., June 28, 1886, Editor Manufacturers' Record :

We have opened a candy factory, but as yet have added no machinery; but will do so in a few weeks. KAUFMAN & RICHARD.

Will Build \$15,000 Shops.

AMERICUS, GA., July 3, 1886.

Editor Manufacturers' Record .

It is our purpose to build shops at a cost of some \$15,000.

AMERICUS, PRESTON & LUMPKIN R. R., S. H. HAWKINS, Pres.

Enlarging Furniture Factory.

JOHNSON CITY, TENN., June 28, 1886. Editor Manufacturers' Record :

We have built on to factory a room 90x20 feet, and shall be obliged to add to this be-

PALO PINTO, TEX., June 26, 1886. Editor Manufacturers' Record

I have struck a gas and coal oil well. There is enough gas to supply the State of G. L. DALTON.

Butter and Cheese Factory.

ABERDEEN, Miss., June 26, 1886. Editor Manufacturers' Record:

I enlarged my ice factory last spring and will do nothing more until next winter. Aberdeen Cheese Factory & Creamery Co. have just completed their creamery and intend getting machinery for the cheese fac-ABERDEEN ICE FACTORY, tory.

SAM'L KAYE.

Building Coke Ovens.

MT. CARBON, W. VA., June 30, 1886. Editor Manufacturers' Record

We have one hundred bee-hive coke ovens under construction, a part of which are now under operation. Expect to complete the plant within sixty days.

THE MT. CARBON COMPANY, Limited.

To Build a Cotton Mill.

GRAHAM, N. C., July 1, 1886.

Editor Manufacturers' Record :

We are getting material on the ground for building a cotton mill. We sold the Sidney Cotton Mills, and as its name was changed, our new mill will be known by the name, Sidney Cotton Mills. We hope to be running by the end of this year. We expect to make plaids mainly.

SCOTT, DONNELL & SCOTT.

CHATHAM, VA., July 2, 1886.

Editor Manufacturers' Record:
L. H. Pigg and W. J. Owendey have been talking about building water works, to supply the town of Chatham with water, but have not as yet taken any definite steps towards commencing the enterprise.

Good Business.

LOUISVILLE, KY., July 3d, 1886.

Editor Manufacturers' Record

We have increased capital stock to \$300,ooo. Do not expect to enlarge at present. We are running full, with fine prospects for fall and winter trade.

LITHGOW MANUFACTURING CO.

JACKSONVILLE, ALA., July 2, 1886. Editor Manufacturers' Record

There is to be a saw mill located near this place at an early day, but do not know the names of the parties yet. M.

The Direct Reduction of Ores.

In the ordinary process of smelting, in nost cases the whole mass of the ore, together with its contained metal, is rendered fluid by the addition of fluxes and by reason of the intense heat to which it is exposed. Now a very much higher temperature is required to melt the ore or matrix, which is usually of a silicious character, than is necessary to reduce and melt the metal. It therefore follows that if there were means whereby the metal only could be rendered fluid while the matrix remained dry, a much lower temperature could be employed than at present. This would mean an economy in the construction of the plant as well as a reduction in working expenses. There are, besides, collateral advantages which would accrue from the use of lower temperatures-as in the case of ores containing sulphur and other pernicious metalloids - into which, however, it is unnecessary here to enter, but which will be readily realized by metallurgists. That there are means whereby all the advantages stated can be realized appears fairly certain from the results of protracted

which has been carried on by Mr. James J. Shedlock, of 9 Gracechurch street, London, for some years past. The outcome of Mr. Shedlock's investigation is that he has devised a system of extracting metals from their ores by means of reducing gases, produced by the decomposition of steam, a bath of any metal in a multen condition being employed to take up the metals as they are reduced from their combinations. In order to carry out the process of ore reduction on this principle on a practical commercial scale, the necessary plant and machinery have been erected at Blackwall and was recently inspected by us. In the reducing apparatus we have first a furnace on the regenerative principle, the heat maintained in which raises the temperature of the gas generators to that point at which steam brought into the generators is decomposed. This furnishes a supply of what is known as water gas, which is composed of carbonic oxide and hydrogen. Built into the rearward portion of this furnace stack is the bath which contains the molten metal, and in which the gases and the ore to be treated meet. This bath is of special shape, resembling an old stone coffin much contracted at one end, and having a cover extending nearly its whole length. The end of the bath furthest from the point at which the ore is fed in is left open and is somewhat higher than the closed or feeding end. At this latter point the reducing gases enter through tw while the pulverized ore is fed in at a predetermined rate through an opening just above and in front of the others by means of an archimedean screw. At this point the reduction takes place, the crushed ore being forced into the bath of molten metal just where the gas enters, and, being acted on by the latter, the result is that any free metal contained in the ore combines with the molten metal in the bath, the earthy or nonreducible portions of the ore rising to the surface of the bath by reason of their lesser specific gravity, and being discharged as a powder at the open end of the bath instead of being vitrified, as in the ordinary process of smelting. It is, however, to be observed that most metals are found associated in their ores with metalloids from which they have to be separated. It is the presence of these metalloids which interferes so seriously with the extraction of the precious metals. especially gold, by the ordinary process, and it is one of the objects of the present invention to overcome this difficulty, which it does in a natural and simple manner. In consequence of the affinity of the hydrogen and arbonic oxide gases for the metalloids, and also by reason of the relatively high temperatures of these gases, the metallic compounds are decomposed, and the volatile constituents of the ore are vaporized and rise with the non-reducible matter to the surface of the molten metal. The gases and vapors pass away through a flue into chambers, where those which are condensable are thrown down and collected, the permanent gases escaping into the chimney shaft. As the metals accumulate in the bath they flow over through conduits into receivers and are cast into ingots. It is claimed that there are no exceptions to the ores which may be manipulated by this invention, the most refractory as well as the most easily reducible being alike capable of successful treatment. It is stated that the ores of iron are the most readily reduced, and that the direct conversion of iron at one operation into a pure carbide of iron ranging from the softest cast iron to the mildest steel is quite possible, the deleterious impurities usually found in combination with the ores of iron being entirely eliminated. When it is remembered that all that is here claimed has been proved experimentally by Mr. Shedlock, it with interest the practical demonstration of the system which is about to be worked at Blackwall, and which certainly gives promise of success, both scientifically and commercially.-London (Eng.) Times,

Cotton Seed Oil Mill and Ginnery FOR SALE

Capacity twenty tons per day. Titles perfect. A fine and valuable property, in the town of Pittsburgh, Texas. For particulars, address,

E. VAN WINKLE & CO., Atlanta, Ga.

For Sale, Cheap.

4,000 ft. 3 in. & 52 ft. 6 in. Gas Pipe.

Has been used only 6 me Will be sold in any quant

Geo. H. Cornelson, Grangeburg, S. C.

FOR SALE.

AN ESTABLISHED BUSINESS and a splendidly built two-story brick building erected expressly for it. Fine opening for a man of small means, who wants to engage in the manufacturing repairing and selling of buggies, wagons, plows, etc. Reason for selling: Desire to engage exclusively in the manufacture of farm wagons for the wholesale trade. Apply or write to Owensboro Wagon Manufacturing Co., Owensboro, Ky.

65-HORSE-POWER

HORIZONTAL, STATIONARY

STEAM ENGINE FOR SALE!

Second-hand, but warranted good as new.
Will be sold cheap for cash. Address,
W. C. BUCHANAN, Lancaster, Pa.

Wanted!

A practical machinist, with some capital, to take partnership and entire charge of a machine shop equipped with new tools. A foundry, doing a large business, will be run in connection with same.

Address MURRAY & STEVENSON,
Anniston, Ala.

WANTED

As a Partner or at a salary, a young or middle-aged man, who is a good job printer and familiar with making estimates, selecting job and stocks, good business man, with a capital of from one to two thousand dollars. To be used in purchasing material in a well-established business that does not owe a dollar of debt. Address X, care Manufacturers' RECORD.

BEAUDRY'S CUSHIONED



Power Hammer.

Blow accurate, pow low accurate, pow erful and elastic. Will increase the profits of any shop 70 Kilby St., BOSTON, MASS.

SALEM, OHIO.

Steel Wire Brads,

Steel Wire Finishing Nails.

Steel Moulding Nails

Flat Heads, Countersunk,

Depressed and No Heads, Round,

Oval Pin, Cone and Screw Heads,

Checkered Heads and Fancy Heads.

Square and Round Points,

Short and Long Chisel Points,

Clinch Points, Blunt and No Points.

Barbed or Smooth Nails,

Bright or Annealed Nails,

Tinned or Galvanized Nails.

Cigar Box Nails,

Picture Frame Nails,

Shade, Caster, and Lock Nails.

Hinge Nails,

Steel and Iron Escutcheon Pins,

Brass Escutcheon Pins

Car-Building and Sheet Iron Roofing Nails,

Wagon Nails, Clinch Nails, Corner-Iron Nails,

Hub-Band Nails, Track Nails,

Bridge and Dock Spikes.

BEST BUSINESS OPPORTUNITY

IN THE SOUTH.

For Lease Cheap.

ATLANTA BRIDGE WORKS, ATLANTA, GA 6 acres ground, good buildings, well equipped, good Machinery.

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Iral work. Tracks commander to the state of the st

FOR SALE at a Bargain.

ONE STATIONARY SLIDE VALVE ENGINE, 35 H. P., 13x22 inch cylinder, with return ubular boiler and all fixtures complete. In good condition, having been in service only six months. Address,

Barbour Machine Works

NORTHERN AND ENGLISH MARKETS

SOUTHERN REALESTATE

Agricultural, Timber, Grazing and Miner Lands; also Manufacturing Properties.

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Agencies in Boston and London.

This business furnishes favorable opportunity to SOUTHERN SELLERS, whilst it brings reliable INVESTMENT TO CAPITALISTS by a system that refuses to handle property that will not submit to examination and report by experts of this office; thus providing in the best markets full, skilled and guaranteed description of distant offerings. Expert examiners at various Southern points. Circulars on application. Correspondence invited:

Mention Manufacturers' Record when writing.

Splendid Tobacco Farm FOR SALE IN NORTH CAROLINA.

Sixty acres of fine tobacco land with splendid two story house and beautiful yard, fronting about 350 feet on the main street, in a town of 150 to 175 population, 15 miles from a city of 15,000 inhabitants and one of 5,000. The house is 300 yards from depot.
There is a large stable, carriage house, corn crib and There is a large stable, carriage house, corn crib and other out-houses, including 3 tobacco barns and 2 tenant houses. Good well of freestone water; 400 peach and apple trees, and 425 grape vines, all in full bearing. Splendid eliminates bearing. Splendid climate; healthy location. The buildings alone cost \$3,500. Will take \$9,500 cash. Special reasons for selling. Address J. P. R., care MANUFACTURERS' RECORD. buildi

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Mutual Benefit SOCIETY.

OF NEW YORK,

(Incorporated Becember, 1881.)

No. 233 BROADWAY, NEW YORK.

ONLY TWELVE ASSESSMENTS

Have been levied from 1881 to 1886, averaging three a year, and making the cost for assessments to a man of 40 years less than five dollars a year for each \$1,000 of insurance.

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Engines and Boilers, Mills of all kinds, Marine Railways, &c. Improved Clay Tempering Ma-chinery, Steam or Horse Power. Phosphat Machinery, Crushers, Rollers, Mixers, &c., &c.

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These Reamers will remove more stock than any other. They only require a hole large enough to carry away the chips, as they will cut to the center, and make a perfect

They keep their size better than any other. As they cut only upon the end, there is no tendency to wear below size.

They will not turn aside for hard or soft spots, nor for holes.

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Manufacturers.

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MINING MOTES.

By T. K. BRUNER, Salisbury, N. C.

THE MARION BULLION COMPANY.

The Marion Bullion Company, composed of careful, energetic business men, are springing into notoriety in North Carolina, as successful business men generally do wherever located. The officers of the company are: Hon. Thos. J. Edge, president; Col. H. C. Demming, secretary and general manager; Wm. E. Machlin, treasurer, and Thos. H. Rice, superintendent at the mines. The offices of the company are at Harrisburg, Pa., the home of the secretary and general manager.

The company fowns in fee simple 700 acres, the mineral and water right of 800 acres adjoining and the water right of 2,000 acres more, also adjoining. The property lies 15 miles southeast of Marion, the county town of McDowell, and is situated on the waters of Muddy creek and its minor tributaries; it adjoins the Vein Mountain Mines, and is near the Huntsville Mountain placers. These three properties form what is known as the "McDowell belt," locally called the

BRACKETTOWN DISTRICT.

This region is full of interest. It has been worked with more or less activity since its discovery in 1829. It was worked with much vigor up to 1849, when the discovery of gold in the West stampeded all the mines in the East. Since that time much work has been done at Brackettown, but it was left for the intelligence and energy of the Marion Bullion Co. to place it once more on the list of dividend-paying mines. From all that can be learned concerning the production of this property, not less than a million dollars have been taken out, first and last. Many a tale is told of the pristine glory of this property, yet from what is to be seen there to-day the glory of the past will not equal the production of the present and near future.

The company have between 28 and 30 miles of ditch lines, flumes and sluices. These furnish and consume from 18 to 20 million gallons of water per day. The water is caught on the sides of the South mountains and conveyed to reservoirs, from which it is distributed in pipes to the gravel beds. One and a half and two inch nozzles are used, and from 300 to 600 cubic yards of dirt is moved per day, according to the character of the ground being worked. Operations are being conducted in two valleys, about half a mile apart. The grit beds in each are some 50 yards in width, and lie from 8 to 20 feet from the surface. main placer deposit is the valley and bed of Muddy creek. This will average 150 yards in width and is about four miles in length. The hydraulic work spoken of above is being in the valley at right angles to the main deposit on Muddy creek. Professor Brandley, an experienced mining engineer, who has made a study of the placers of this creek, estimates the value of two miles of it to be \$60,000,000. This estimate does not include the branch hollows tributary to the main bed. These side hollows are all auriferous, and some of them are even richer than the ground examined by Prof. Brandlev.

AUTOMATIC SLUICING.

Superintendent Rice has marked out a plan for automatic sluicing, which will prove of great value when put in operation. This scheme requires the cutting of a tunnel 4,000 feet in length, through which the water is to pass. This will give 800 feet fall in Second Broad River Valley, or the water may be turned back, around the side of the mountain, into Muddy Creek Valley with 120 feet fall. This would furnish complete command of the situation. The feasibility of this scheme is beyond doubt, and the company have the matter under consideration.

The placers yield an average of ten cents

per cubic yard. The lowest yield has been 3 cents, and the highest about one dollar to the cubic yard.

The company have paid this year a dividend of 3 per cent. (on 3 months), and they expect to pay two more before January I, 1887. This rate will made the dividends reach from 9 to 12 per cent. per annum on the placer work alone.

OUARTZ FOR MILLING PURPOSES.

The company have purchased a ten stamp mill, which will go up this month. The action has been forced on the company by reason of the quartz accumulating from the crushings. It is estimated that there are more than 20,000 tons of auriferous quartz accumulated in this way, and each day's work swells the piles. A great deal of this quartz, which may be called saccharoidal in structure, shows free gold, while all of it pans well. Assays have been made, but they are too extravagant for publication. Besides the quartz thus obtained, there is an abundance of the same material found in this place, there being no less than 25 or 30 veins on the property, all of which have been tested and found to be auriferous. These veins are not large, but are sufficiently rich for remunerative work. The output of the property after the erection of the

fact makes the district of more than ordi nary interest to the mineralogist, and not only so, but it increases the sources of wealth to the company very materially. Those not acquainted with the facts may read the following list with incredulity, yet the facts warrant the publication. Beginning with native elements they have gold, silver, lead, platinum and the diamond. Sulphides-molibdenite, galenite, pyrite. Oxides-corundum, hematite, magnetite, ilmenite, menaccanite, rutile, pyrolusite, quartz, agate. Silicates-amphibole, asbestos, beryl, chrysolite, garnet, zircon, biotite, muscovite, orthoclase, tourmaline, fibrolite, kyanite, topaz, talc, kaolinite, epidote, actinolite. Carbonates-dolomite, cerussite. phates - vivianite, monazite. Miscellaneous-pyrope and almandine garnet, hyacinth, ruby, emerald, aquamarine, citrine topaz, amethyst, and other gem stones not yet determined. This is an exceedingly interesting list, and presents a variety rarely found in so limited an area.

The above is but an etching outlining the region. There is ample material for filling in the picture. It is enough to say that the affairs of the company are in a healthy condition, and, from recent observations, the writer is led to the conclusion that careful

AUTOGRAPHIC TORSION TESTING MACHINE.

stamp mill will probably be three times as much as at present.

economy has characterized the management from the beginning. With a continuation

The gold placers and the quartz veins do not represent the only sources of wealth open to the company. They have three beds (material exposed in each) which it is estimated will yield

10,000 TONS OF EMERY.

This emery is said to be of superior quality, and will prove of great value to the company. Machinery is to be introduced for preparing it for the market. On another part of the property exploitation work is being conducted with a fair prospect of finding marketable mica. A tunnel 400 feet in length has been driven into the mountain side in search of the vein. The vein has been found on the surface, and will be cut by the tunnel within the next 100 feet, unless there is a fault in the formation.

RARE MINERALS ABUNDANT.

The extensive alterations and general decomposition which the region has undergone, and the more recent wearing down of disintegrating material, has left exposed in the soil and in the gravel beds not only gold, but many rare minerals. Some of these are also found in place in the rocks. This economy has characterized the management from the beginning. With a continuation of this economy as the work is enlarged, the Marion Bullion Company presents itself as a safe and remunerative investment, though there is little if any of the stock on the market.

Thurston's Autographic Torsion Testing Machine.

This machine has for its purpose the determination of the torsional strength of materials, producing an autographic record of the values of elasticity, ductility, resilience, homogeneity and ultimate resistance of the various metals, alloys and woods used in engineering construction.

The machine is capable of revealing characteristic properties upon which to base sound practical judgment as to their relative usefulness for the various purposes for which materials of construction may be required, and also under the different conditions of their production or manufacture,

Simple in construction, and designed with special reference to rigidity and to convenience of operation, it provides improved methods of subjecting specimens to strains

of torsion, either continuously or allowing periods of rest, the latter effect being to show remarkable powers of recuperation of strength in the specimen when apparently giving way under continuous twisting strain; while all the effects of strain may be observed to final rupture, the autographic record being presented graphically by a curve traced by the machine itself.

By the use of this automatic recording device the relation between the moment of torsion and the angle of torsion is represented graphically throughout the entire investigation.

Each jaw receiving the specimen has its axis in the same plane, horizontally and vertically, and motion given to the worm wheel is imparted through the specimen to the weighted pendulum, which is hung on the opposite side of the frame. A yoke carrying a pencil is attached or pivoted to the pendulum, and is guided at its upper end by a brass semi-circular template or "curve of sines," its inner edge being cut to represent a curve, the ordinates of which correspond to the torsional resistance of the weighted pendulum while moving through an arc to which the corresponding abscissæ are proportional, while the rotation of the jaw attached to the worm-wheel causes the pencil to be moved forward by the action of the guide curve upon the upper end of the pencil yoke.

Upon the shaft connecting the wormwheel and the jaws which receive the end of the specimen is a brass drum 51/2 inches wide and having a circumference equal to 36 inches. Upon this drum is stretched a specially ruled blank of section paper, each square lengthwise representing one degree of arc. Upon this blank the strain diagram is autographically traced. The motion of the pencil in the direction of the axis measures the torsional moment, from which the tensile strength of the specimen may be deduced, while the rotation of the drum carrying the diagram represents the angle of torn, from which is deduced the ductility of the specimen.

By an improved device the worm can be readily disengaged from the worm-wheel, and by carefully allowing the pendulum to swing back to its normal position, either by hand or using the worm and wheel, the limit of elasticity may be determined.

A number of diagrams representing strains or tests made of various metals or alloys can be placed upon the same sheet, affording an easy comparison of results.

It is a testing machine that should find a place in the laboratory of every scientific school where principles of strength of materials are taught, and if widely introduced into the iron-working and steel-making establishments of the country, would prove of invaluable assistance to the engineer in selecting the best materials of construction for every requirement.

Prof. R. H. Thurston's late work, "The Materials of Engineering" in three volumes, published by John Wiley & Sons, New York, refers specially to investigations conducted with the aid of the Autographic Torsion Testing Machine. Vol. 2 contains diagrams showing results obtained in this direction, and which demonstrates very clearly the important service this testing machine performs.

This machine is manufactured by the Pratt & Whitney Co., of Hartford, Conn., from whom any further information may be obtained.

TRADE journals and newspapers can do a good work in building up the sections in which they circulate. A conspicuous instance of this truth is furnished by the Baltimore MANUFACTURERS' RECORD, which speaks for the South on all matters pertaining to the diversification and multiplication of the great industries of that section. Its reports are full and reliable, and the manufacturers of the South should give it a hearty and liberal support.— Buffalo, N. Y., Milling World.

The Peerless Carpet Cleaning Machine.

Many laundries are adding to their income and profits by putting in carpet cleaning machines. It goes in connection with the laundry very nicely, as the same delivery wagons and power will answer for both with but a small addition in expense, so that receipts for carpet cleaning will be nearly all clear profit.

The writer recently had an opportunity of seeing in operation a Peerless Carpet Cleaning Machine, the construction of which is as follows

The Peerless belongs to the rotary class of carpet cleaners; consists of an eightsided cage, which runs in a cylindrical casing, having a circular opening at the

The Iron Man.

There is now in operation on the band log saw-mills of Junk & Bros. in this city a recently patented device that may well be called "the iron man," because it does the work of a man, does it methodically and accurately; never tires, never forgets the figures and does not have to leave the mill for lunch or refreshments. It is in fact an automatic arrangement for operating the set marks of a saw-mill carriage for moving the log up to the saw and determining the thickof the lumber to be cut. Those who are familiar with saw-mills and the lumber business do not need to be told that the greatest difficulty in the manufacture of lumber is in securing uniform thickness. So close has inspection become of late that

can be set from the smallest fraction of an inch up to several inches. Close to this lever is another by which the mechanism can be instantly thrown out of gear when

Though difficult to describe without a diagram, the device is so simple and cheap that the wonder grows why some of the thousands of inventors who, since the days when Mr. Page superseded the "old crowbar and square" set marks by his "four turns to the inch" screw head blocks, have devoted their lives and fortunes to this problem, but have not discovered it sooner.

The inventor and sole owner of the patent s Mr. T. J. Reamy of this city.-Nashville

Need of Good Roads.

The suggestion of the MANUFAC-TURERS' RECORD that prison convicts in the South be employed upon the public roads instead of being leased to contractors for private enterprises, is meeting with much favor. Commenting on it, the American Machinist says:

"The idea is a sound one. Wagon roads in the South are generally bad in the winter, and every convict could profitably be employed upon their improvement. The only objection to the plan is that if does not allow a ring of favored contractors to grow rich out of prison labor. The plan would be in the interest of the whole people, and would not interfere with free labor.

In many parts of the South the roads are horribly bad in winter, not only entailing heavy expense upon every one using them, but depreciating the value of all property and keeping out immigration. People who have been accustomed to good hard roads, even if they are hard six months in a year, because the ground is frozen solid, do not want to settle in a country where the roads are mainly mud for six months out of every twelve. Good roads are to-day probably needed almost, if not as much, as more railroads. Railroads are great developers, and so are good macadamized wagon roads. The South would be vastly richer, its lected because of an unpromising aspect,

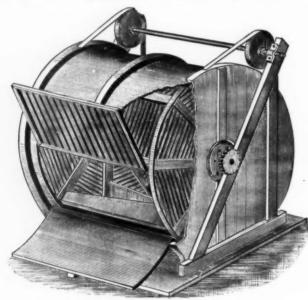


This recent invention, to protect the leather from wearing on the top of the dash, will be welcomed by all carriage manufacturers as something long needed.

The old way of welding a top rail to the dash frame, was at one time, the best method, although moldings and other devices had been tried, and proved impracticable, as the molding soon strips off and other plans have been too costly. The S. & S. Rail seems to have the merits of the old method, and possesses the additional feature of being ornamental. While costing but little, it makes a buggy on which it is used more salable. The accompanying cut explains itself, and one can see at a glance that it requires but a few minutes to apply the rail to a dash. In fastening it on small bolts are used, the clamp slipping over the dash bars, similar to a whip socket fastener. This rail is made for a dash of any size or shape, and is handsomely plated. In adjusting, the rail is put together and placed on the dash, the center braces or clamps are then fastened, and then the

The manufacturers keep on hand a line of all the standard sizes, to accommodate those who have dashes and rails together. This dash rail is made by the Machine & Steel Pulley Co., Indianapolis, Ind.

THOSE residents of the South who are inclined to put much faith in the industrial and commercial growth and prospects of this vast, and we might say, resurrected country, should feel eternally grateful to the MANUFACTURERS' RECORD for the noble work it is doing in behalf of that section. The South may feel happy over the fact that it has an organ at Baltimore continually working to its every advantage. According to the MANUFACTUR-ERS' RECORD the South is growing all along the line. Its growth is not necessarily swift, nor does its progress show upon the surface as did that of California and Oregon, during the various gold epidemics that aided so materially in the growth of their industries and population, but the growth of the New South is much more gratifying than that because it takes its course in line with the calm and steady flow of events. Land that was twenty years ago allowed to run waste, land which was discarded and neg-



CARPET CLEANING MACHINE,

center in each end and a narrow open- | the variation of one thirty-second of an inch ing the whole length at one side for the discharge of the dust, preferably on the lower side, but may be changed to suit The ends of the cage are circumstances. composed of eight spokes which are bolted to a center disk having journals to support the cage. The spaces between the spokes are filled with slatted panels which come even with the inside of the spokes. The outer ends of the spokes are joined to a sectional rim which forms the belt pulley. The power is applied on this rim just where it is needed, without the use of gears, and does not strain the machine while working. The two ends of the cage are united by tapering shelves which are arranged with the wide and narrow ends alternately, there being one shelf to each spoke in the end, which is securely fastened to it by bolts. The spaces between these shelves are filled with frames having slats running around the cage, which prevents the carpets from working through between the slats and getting injured, as might occur easily if the slats run lengthwise. Each alternate frame is hinged to a shelf and forms a door for putting in and taking out the carpets, thus rendering it unnecessary to turn the cage around to a given point to open it, as any one which stops near the door in the casing may be opened by turning a short distance at most. The machines are made by D. J. C. Arnold, New London, Ohio.

THE Tolchester Beach excursions continue as popular as ever-the splendid steamer Louise carrying big crowds of pleasure seekers at every trip. Tolchester has been greatly improved during the last few years, new attractions having been added every season, and, under active and progressive management, it will no doubt continue as in the past, a charming place as an excursion resort. The trip of two hours going and coming, on a safe and commodious steamer, affords a delightful change from the heat and dust of the city. The best of order is always observed on the steamer and the grounds.

will often reduce the price one grade. To obviate this difficulty millions of dollars have been spent on patented set marks until inventive genius has well nigh reached perfection in this regard. But the most perfect set marks ever invented require the constant attendance of a careful man to produce satisfactory results. There is a limit to human endurance, and in the course of a long day's work the man at the set marks is excusable if he sometimes fails to throw the lever in time, or if his mind becomes confused and he is slow in making correct mathematical combinations with the complicated fractional ratios necessary in saw lumber "full." The "iron man" takes this man's place and does his work accurately and promptly. In a small portable mill his services can be dispensed with entirely, and in a large mill he can be put to other work.

After a short trial Mr. Junk is of the opinion the device will save \$10 to \$12 per day in the increased amount of cut and improved quality of lumber.

The device itself is extremely simple. consisting of only one pair of bevel gears, a few levers, and is attached firmly to the side of the carriage opposite the saw. Fastened rigidly to the floor and at the proper height is an iron bar having serrated projections on its upper surface similar to the teeth of a ratchet. When the carriage is "gigged back" a lever attached to the bevel gears, and which project at a right angle from the carriage, passes over this bar, and when the carriage is "fed up" it engages with the projections, or teeth, on top and the forward motion of the carriage operates the gearing and sets the log. The lever then falls back into position to repeat the operation when the carriage is "gigged back" again. As the operation is performed by the motion of the carriage, it will be readily seen there is no time lost and very little power expended. The thickness of the lumber is regulated by means of an index lever and graduated scale, located convenient to the sawyer's hand. Any thickness



farmers would be more prosperous, its lands more valuable and in greater demand, and immigration would be greater if it had good, well-built roads. This work can be done with much profit and with great benefit to the whole South by the employment of convicts under men who thoroughly understand road making. The importance of good roads ought to be impressed upon Southern people until they appreciate their great value. Good roads are now one of the greatest needs of the South, and especially to the farmers, who use them more than any other class,

has now been brought under the machinery of cultivation, and is yielding a faithful return for the labor expended upon it. Increased cultivation demands increased industries of every kind. Mills must be built to consume the grain, stores must be opened to consume the products of the mills, and in the natural course of events, commerce, manufacture and population, increase and thrive in a manner like the strange development of a miracle. This is a faithful picture of the South to-day. The opportunities opening here every hour are numerous, but it must be remembered that there are plenty of men idling around longing to embrace them, and it is well also to be reminded of the fact that there can never be too many to embrace-them, for the more such matters are pushed and increased, the greater will grow the production and the greater the demand,—Frederick News. merce, manufacture and population, increase

Self-Centering, Self-Releasing Gauge Lathe.

This lathe is constructed entirely of iron and steel, and is specially designed for doing all kinds of plain turning, such as chair stuff, broom, hoe, rake, fork, pevy, cant-hook and other handles, plow-rounds, whiffletrees, neck-yokes, reel heads, for reapers, etc., etc.

Four sizes are made: 1st the Broom Handle Lathe, for turning to 31/2 feet long and 11/2 inches diameter; 2d the 4 ft. Lathe, turning to 4 ft. long, and to 2 inches diameter; 3d the 5 ft. Lathe, turning to 5 fi. long and 31/2 inches diameter; 4th the 7½ ft. Lathe, turning to 7½ ft. long and 3½ inches diameter. Special sizes of longer or larger dimensions are constructed when ordered.

The lathe bed is cast in one piece, upon which the tail block is adjustable for any shorter length desired. The head block is cast in one piece, into which the arbor is fitted, the boxes of which are constructed in such a manner that any wear to the arbor can be readily taken up by means of a single set screw.

The arbor is made of best cast steel; connected with the head block is a funnel



. SELF-CENTERING, SELF-RELEASING GAUGE LATHE

shaped device for self-centering the sticks. The tool carriage spans the lathe bed, sliding easily on planed ways, and holds the die and gauge knife, also the lever which carries the finishing knife. The finishing knife lever is movable upon its fulcrum, allowing the knife to be raised or lowered so as to shape the stick or handle conformity with the shape or curvature of the pattern, which pattern is fastened to a strip of wood accompanying the lathe and secured to its bed by means of screws.

The tail block is cast in one piece, and is bored to receive the tail stock or arbor; into this arbor is fitted a steel center, which revolves, as a live center, with the stick The live center is forced up to its work by means of levers attached to a rod and is held up to its work by a catch operating on the rod until the work is done, when the work is self-released by the finishing knife lever coming in contact with the catch, which releases the rod holding the levers attached to the tail stock, and the live center is drawn back by a weight, letting the finished work fall out of the lathe.

This lathe is made by the I. E. Merritt Machinery Company, Lockport, N. Y.

THE editor of the News, of Lexington, Va., recently made a trip through a portion of West Virginia, traveling over the Chesapeake & Ohio Railroad. Speaking of the trip he says:

"The developments along the line of the railroad are simply wonderful. New mines are being opened, new towns springing up and new houses being built everywhere. Persons familiar with the country ten years ago would hardly know it now."

Progress like this is seen in many parts of the South. The developments in that section are far greater in the aggregate than is generally supposed.

St. Louis Iron Market.

Specially reported by Rogers, Brown & Co., Gay Building, 204 N. 3rd street, St. Louis, W. H. Shields, Manager. St. Louis, July 5, 1886.

There is considerable more inquiry, and

buyers find it necessary to contract at present prices for their future wants, having jointly made up their mines that prices have at last touched bottom. We quote cash f. o. b. cars St. Louis: HOT-BLAST CHARCOAL.

Missouri. \$17 00@18 00
Southers 17 00@18 00

Ohio	-	-6-	-
COKE AND COAL.			
Missouri	_	-9-	_
Southern No. 1			
Southern No. 2	16	00 817	00
Southern No. 21/4	-	-0-	_
Ohio Softeners	17	00(820	00
MILL IRONS.			
Missouri	16	00/816	50
Southern	15	00@15	50
CAR-WHEEL AND MALLRABLE I	RON	1.	
Southern	20	000025	00
Lake Superior	31	00@23	00
MISCRLLANEOUS.			
Old Wheels	15	75/016	25
Old Rails	_	-6-	_
Connellsville Coke, East St. Louis	-	-60 s	65

Chattanooga Iron Market.

Specially reported by LOWE & TUCKER, Brokers and

CHATTANOOGA, TENN., July 5, 1886.

Complaints are still common from the country of poor crops and dull times. The weather at this writing has cleared, which, if it remains so will do much to restore the crop prospect and business generally. Notwithstanding this, business is very good for this season of the year, and merchants are sanguine of a good fall trade. Pig iron is moving steadily along and furnaces are keeping their yards well cleared up. Quite large sales of pig have been made to interior points in Pennsylvania, and Pittsburg especially has received some quite heavy shipments. Prices remain about stationary with an outlook for more active business as the fall approaches. We quote:

No. 1 Foundry			@15 50
No. 2 Foundry	13	50	@14 00
American Scotch	13	50	@14 00
Gray Forge	12	00	@13 00
Car-Wheel Iron			@25 00
Ores, Red and Brown		50	@ 2 25
Furnace Coke	2	00	@ 2 30
Nails, car-load lots, 30 days	_	-	@
Bar Iron, per 100 lb	-	-	@ 1 75
Old Rails	18	00	@10 00
Old Wheels	13	00	@
Wrought Scrap, No. 1	-	_	@- 70
" No. 2	-	-	@- 50
Cotton Tie Clippings	-	-	@
Cast Scrap	-	-	9
Railroad Splices	_	_	@ 1 8s
Railroad spikes			@ 2 25
Light Steel Rails, long ton	-	_	@
Barb wire-Cambria link	-	-	@
Barbed wire-four point galvanized		_	@
Parb ware		-	G

The Barkley, Craft & Hunter Co., Cincinnati, O.

This enterprising new company are large manufacturers of harness and saddlery goods, and will shortly put into operation a new plan to introduce their goods all through the South.

Their specialty in the harness line is the

"Champion Harness," which is the best value for the money that can be had any-where.

where.

The Champion Harness is made in \$5.00, \$10.00 and \$20.00 sets, packed in a neat wooden box. One Champion Buggy Whip, worth \$1.00, and one quart of Craft's Harness Oil will accompany each box, and be given free to the purchasers of the Champion Harness. This liberal offer is based upon the excellence of the goods offered by the Barkley, Craft & Hunter Co.,—and if the excellence and value of these goods are duly considered, the Champion Harness will have immense sales. It is the intenare duly considered, the Champion Harness will have immense sales. It is the intention of the Barkley, Craft & Hunter Co. to have a live agent in every town in the South within 60 days. If there is no agent in your town, write to the Barkley, Craft & Hunter Co. for their handsomely illustrated catalogue and price-list, printed in English, Spanish and Portugese. Mailed free to the trade upon application. trade upon application.

If you are not already a subscriber to the Baltimore Manufacturers' Record, send us \$3 and you will receive it regularly for one year, or six months for \$1.50.

BRASS.

ROLL AND SHEET BRASS

Brown & Sharps's Gauge the Standard. New List, Jan. 17, 1884. Dis 30@30&5 \$ COMMON HIGH BRASS

1	Wider than		10	13	14	36	3.5
1	and including.)	10	13	14	16	18	20
L	To No. so, inclusive:	21	.22	.23	.25	.27	.90
П	Nos. 21, 22, 23 and 24:	12	.93	.24	.26	.28	-30
L	Nos. 25 and 26	2236	.83%	.2436	.97	.20	.31
	Nos. 27 and 28		.84	.25	8e.	.30	-31
	Add 9 cts. Th. for si and lengths.						
1	Add % c. W. D. addition than Nos. 28 to 38 in			ch nu	mbei	thi	mer
	Brass thinner than N			laters'	Bra	SS.	
	Printers' rules Printers' Sheets and	Plate	s cut	to pa	rticu	55	Cts.
	sizes and lengths to ?	No. a	o, incl	usive.		30	CES.
	Brazing, Spinning and than common High I	Spri	ng Br	ass, o	ne ce	ent m	оте
1	Low Brass four cts. # Brass.			than c	omm	on H	igh
1	Gilding, Oreide and Bro common High Brass.	onze :	seven	cts. P	D. n	acre t	han

Over 1/4 in. to 1/4 in., inclusive, Nos. 12 to 20, inclusive. Over ¼ in. to ½ in., inclusive, Nos. 12 to 30, inclusive.

½ in. and narrower, not less than
Over ½ in to 2 in., inclusive, Nos. 21 to 38, inclusive.

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¾ in. and narrower, Nos. 29 to 22, inclusive, not less than.

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		PLATE	RS' OR	GOLI	D 101	BTAL,		
In bars								.40C
Iningo	bs							-43C
In ingo	ts, j	olaned or	polish	ed			****	.46c
		1	BRASS T	CUBIT	NG.			
Brown	&	Sharpe'	S Gau	ge t	he	Standar	d for	er B
Plain,	o N	o. 20, inc	lusive.					
Above	5-16	inch to 3	inches	, inc	lusi	ve	1	8 35
Plain,	o N	o. 21, ab	ove a in	ches				41
88 E	-16	inch to N	0. 20.					44
** 1	(in	inch to N						66
		inch						
		ch						
Bronze	Tu	bing 3 ce	nts ne	r por	und	more th	an B	rass.
Nos. 21	, 25	, 23, two	cents	adv	anc	e on lis	for	each
mumb	er.	, 26, fou			ano	e on lis	for	each
Above 1	No.	a6, speci	al rates					
All Ma	ndr	el-drawn	Tubes	, 36	incl	h and a	bove,	five

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incl	usive	.99	\$.26	\$.30
	17 and 18	23	27	31
44	19 and 20	24	28	39
	21	95	29	33
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44	23	28	38	34 36 38 40
44	24	30	34	38
	35	32	36	40
46	26	35	39	43
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	28	42	46	51
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66	30	48	52	6a
	31	51	5.5	67
44	32	55	59	73
44	33	59	63	82
**	34	64	68	95
44	35	70	74	1.30
44	36	76	8o	1.50
44	37 1	.00	E-04	1.70
66	38 1	.30	1.34	2.00
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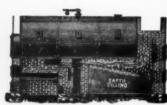
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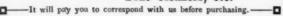


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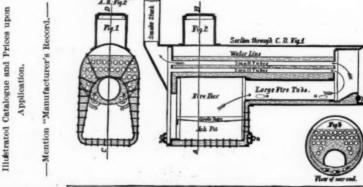
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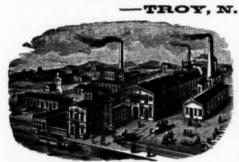
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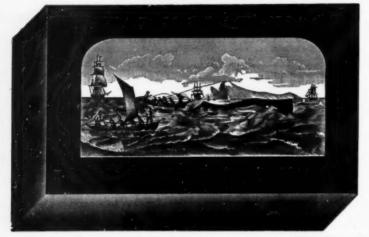


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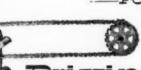
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Also a line of New Tools all kinds. We are aways glad to correspond, and if parties desiring to purchase will write, stating just what they want, we will be glad to name prices on either new or second hand.

E. P. BULLARD,

No. 14 Dey Street, New York.



W. J. CLARK & BRO.

Hydrants.

These Hydrants are made of the best material, and are guaranteed to be entirely -wasting and non-frees ing. The works of these Hydrants can be taken out and repaired without breaking the ground. Send for circular.

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BUCKEYE BOILER & BRIDGE WORKS.

CLEVELAND, OHIO. Manufacturers of all Kinds of

WROUGHT IRON BRIDGES. also, BOILERS, TANKS, STILLS,

BLAST FURNACES,

and all kinds of Plate Work,

Jail Cells, Bank Vaults, and HEAVY GIRDERS for Buildings.

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WIRE GRATING FOR WINDOWS

ors and Office Railing, Wire Screens for Banks, irches and Store-Fronts. Woven Wire, Wire e-Guards, Sieves, Screens for Coal, Sand, &c.

66 S. Calvert Street, Baltimore.

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and Ornamental Wire Works.

DUFUR & CO. 36 N. Howard St., Baltimore. Wire Railing for Cemeteries, Lawns, Gardens, Offi-ces and Balconies; Window Guards, Tree Guards, Wire Cloth, Sieves, Fenders, Cages, Sand and Coal Screens, Iron Bedsteads, Chairs, &c.



New Swing Cross Cut Saw,

with rigid iron frame and steel arbor. The frame is mounted on a heavy iron base, bolted to the joist under the floor. Naw Mill Mandrels, Saw Machinery, and all sizes of Saw Arbors.

R. M. McBETH & CO. 185 Pearl Street, Cincinnati, Ohio.

BAY

FORTRESS MONROE, NORFOLK and the SOUTH. The Bay Line comprises the New and Elegant Steamers

"VIRGINIA." "CAROLINA" and "FLORIDA."

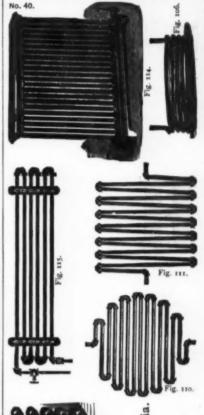
"VIRGINIA," "CAROLINA" and "FLORIDA."
All the Comforts and Luxuries of a First-Class Hotel are afforded the Traveler. Spacious and Elegant Saloons and Staterooms, furnished with an especial view to comfort. Unsurpassed Culsine, which is made a specialty with this Line. Elegant service and courteous attention. Steamers leave Baitimore daily except Sundays at 9 P. M.
At Old Point Comfort is located the SPLENDID HYGEIA HOTEL, a Delightful Resort at all Seasons of the Year. For Tickets and Information, apply at Company's office,

157 W. BALTIMORE ST., BALTIMORE,

Or on Board of Steamers.

D. J. HILL, Superintendent.
E. BROWN, General Ticket Agent.

R. P. GERLACH, Box 110, Cleveland, Ohio.



8

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Goods

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this Paper when you Address us.



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STEAM TRAP

For returning steam condensed under pressure automatically into the boiler, whether taken from above or below the boiler level, without loss or waste. MANUFACTURED BY

THE CURTIS REGULATOR CO.

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all clay working interests, including Bricks, Tile, Terra Cotta, Sewer Pipe, Pottery, etc.

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T. A. RANDALL & CO.

87 E. Market St., Indianapolis, Ind.

FOR SALE.

One 50-ton Zero Ice Machine at half-price. Correspondence Solicited.





HERCULES WATER WHEEL.

In the Manufacturers' Record of April 24 was published a list of parties in Maine who had at different times bought HERCULES WATER WHEELS. The following inquiry was addressed to each one of them: "Please give the result of your experience with the HERCULES WATER WHEEL." Every answer received is given below:

From the Barker Mills, Auburn, Me.: "We have used since 1879 one 39-inch Hercules Water Wheel under 32 feet fall. It has driven 21,776 spindles with little spare gate, with 432 looms. It has made us no trouble and cost us nothing for repairs, and is a remarkable wheel for disposing of sawdust, chips and shavings, a large amount of which comes down our stream. We are highly satisfied with the wheel in all respects."

From Mousam Manufacturing Co., Kennebunk, Me.: "We have three of the Hercules Wheels in use, and like them much better than any wheel we have ever used. They seem to accomplish all we expected, and do not clog or get out of order. We should use them in preference to any wheel we know of if we were to put in more."

From W. T. Pearson & Co., Bangor, Me.: "We have several of the Hercules Water Wheels in our mill, and they give perfect satisfaction in every respect. We have tried most all kinds of wheels, but have never found any that will equal the Hercules Wheel. We can get a better result with same head water than any other wheel."

From Forest Paper Co., Yarmouthville, Me.: "We have used Hercules Wheel since the fall of 1882. The wheel does our work to our satisfaction. We have never made any repair, nor have we had occasion to change the step. It runs 24 hours a day. We can heartily recommend them."

From R. W. Lord & Co., Kennebunk, Me.: "The Hercules Water Wheel which we have been running for the past three years has proved all that it was represented and has given us perfect satisfaction."

From the Lewiston Mills, Lewiston, Me.: "We have in use two Hercules Wheels made by the Holyoke Machine Co., and they are and have been for four years giving entire satisfaction."

From Somerset Fibre Co., Waterville, Me.: "The Hercules Wheel we are using has given us entire satisfaction."

From Cumberland & Presumpscot Mills, Cumberland Mills, Me.: "We are well satisfied with the working of the Hercules Wheel. Should we need more wheels, would put in the Hercules without asking any further questions of other makers."

From Lincoln Pulp & Paper Co., Lincoln, Me.: "We are using two of the Hercules Wheels since starting our mill, some three years ago, and they exceed our expectations, giving the best result. With years of experience, we have found them to be the best ever used, and do recommend them to parties wishing a good wheel."

From Kennebee Fibre Co., Waterville, Me.: "We are using nine 24-inch Hercules Wheels under a head of 28 feet. We are so well pleased with them that we should buy the same kind if we needed more."

From Pepperill Manufacturing Co., Biddeford, Me.: "It is working satisfactorily."

From Androscoggin Pulp Co., Portland, Me.: "We are using in our mill five 48-inch Hercules Wheels very satisfactorily. They are a strongly built and powerful wheel, and we think economical in the use of water in proportion to water used."

From Penobscot Chemical Fibre Co., Bangor, Me.: "The Hercules Wheels we have here are running well and to our satisfaction."

From Bates Manufacturing Co., Lewiston, Me.: "We are using four of the Hercules Wheels. Three of them were put in in the summer of 1882, the other one longer ago. They give perfect satisfaction, and there has never been one dollar laid out on them for repairs."

From W. K. Shurtleff & Co., Skowhegan, Me.: "We have four 36-inch Hercules Water Wheels in use; they have been running since November 24, 1884."

From Worumbo Manufacturing Co., Lisbon Falls. Me.: "We have the Hercules Wheels made by the Holyoke Machine Co., of Holyoke, Mass., and they give us entire satisfaction."

From Hollingwoorth & Whitney Co., Gardiner, Me.: "We have in use at our mills here two 36-inch and one 42-inch Hercules Wheels, all of which are running to our satisfaction and giving good results. We think of adding another 42-inch wheel this summer, which goes to show that we are satisfied with them."

From Davis Shoe Co., Kennebunk, Ma.: "We have a Hercules Wheel in use in our factory here, put in by the Holyoke Machine Co. a short while ago. It has given us entire satisfaction, proving all it was represented to be, and, without doubt, gives a higher percentage of power from the water used than other wheels. Since putting it in we have never had a moment's trouble with it."

From S. F. Abbott, Agent Lockwood Co., Waterville, Me.: "The Lockwood Co. are running seven water wheels. Four of them are 51-inch Hercules, made by the Holyoke Machine Co. I like them better than any we have, and think they are an economical wheel and not liable to get out of order."

From H. W. Golder, Belgrade Mills, Me.: "I have used water wheels of various makes for about 25 years and never found anything so satisfactory as the 'Hercules.' It gives a larger per cent. of effective power at all stages of gate and is more efficient in every way than any wheel I ever saw. In fact, it is the wheel par excellence and beats the world, and is the wheel I would recommend above all others."

From Denison Paper Manufacturing Co., Mechanic Falls, Me.: "We have three running, and have 22 water wheels in full blast. We believe the Hercules the best wheel (water) in existence to-day, everything considered."

From A. F. Merrill & Co., E. Eddington, Me.: "We have a Hercules Water Wheel in use in one of our mills, and are well satisfied with it; think it does all the makers claim for it."

From Cabot Manufacturing Co., Brunswick, Me.: "We have used the Hercules Water Wheel for about five years, and it has given good satisfaction."

From Dunn Edge Tool Co., Oakland, Me.: "We have in constant use three Hercules Water Wheels and they give us entire satisfaction. For most purposes we consider the Hercules the best water motor made in this country."

From Alvin Record, Livermore Falls Pulp Co., Livermore Falls, Me.: "I am using seven of the Hercules Water Wheels, one 27-inch and one 33-inch. I amalso using three other kinds—very good ones—but have just ordered another 36-inch Hercules Wheel; and if I could have others given me, I should not use them; had rather pay for the Hercules; they are far ahead of any wheels that I have ever seen. I think they will give better results than are claimed for them."

From S. A. Eames, North Nevery, Me.: "I have used the Hercules Water Wheel two years and it gives perfect satisfaction. It has been ready to run any time and without any expense so far. I am now putting in a rotary saw. I don't think the Hercules can be beat for power. I have been running an up-and-down saw with the wheel and a shingle machine, and I can use only part gate."

From Westbrook Manufacturing Co., Saccarappa, Me.: "We have in use one 48-inch Hercules Wheel under 12-foot head, which is driving 504 Crompton 4 and 6-box gingham looms and all the machinery in dressing room of the same mill. It gives us very even speed. We have a surplus of power, using only five-eighths gate. It runs to our entire satisfaction."

Literary Notes.

THE July Wide Awake celebrates in various charming ways the arrival of the great American holiday. E. S. Brooks, in story, "When George the Third was King," gives us an inside view of the famous Declaration of Independence," showing that the first Independence Day was cele brated on the "eighth" instead of the "fourth." This story, together with Margaret Sidney's beautiful illustrated ballad, "The Minute Man," ought to be widely read The ballad is the story of "The Shot Heard Round the World." Another historic story of the "Beginnings of Independence" is, by Mrs. Demeritt, entitled "The first Blow for American Liberty," and relates to the famous "Bunker Hill powder." Still another Fourth of July article is the story by Margaret Emma Ditto, entitled "The Capture of the Hennepin Gun." There is a good true story of adventure called "A Strange Prison," by O. Clute, and an interesting account of "Three Little Indians"-Apaches-by James Steele. In the line of instructive papers come Mrs. Sherwood's "Royal Girls of Russia:" Mrs. Fremont's "A Morning with the Queen of Denmark;" Appleton Morgan's "A Sixteenth Century School-Boy;" Mrs. Treat's "Slave-Making Ants;" Miss Harris's article about Francis Parkman, the historian; Miss Fursdon's de-lightful description of "Some Old English Harvest Customs," to say nothing of the three serials, and the charming poems, one of which is by Mrs. Harriet Prescott Spofford.

THE July Century contains "Cross-Country Riding in America," by Theodore Roosevelt and Henry Cabot Lodge, the former drawing from his experience in riding to hounds on Long Island, and the latter describing the older hunt at Geneseo, Livingston County, New York, and that of the Myopia Club in Essex County, Massachusetts; "Homing Pigeons," a finely illustrated account, by Mrs. E. S. Starr, of the training and use of carrier-pigeons; "A Day in Surrey with William Morris," the English poet, artist and socialist, by Miss Emma Lazarus; and Mrs. Schuyler van Rensselaer's third paper on "American Country Dwellings."

The frontispiece of the number is a pro file portrait of Frank R. Stockton, the famous author of "Rudder Grange."

As usual the War papers are profusely illustrated, the first of them being a conclusion to the Antietam articles of the previous number and, under the title "In the Wake of Battle," giving a woman's recollections of Confederate hospital work at Shepherdstown during Antietam week. Three other papers deal anecdotally with the capture of New Orleans.

"France and Indo-China," by Augustine Heard, deals with the causes and fruits of the recent French war in Asia; and Rev. Leighton Parks, in "A Bozu of the Monto Sect," describes a visit to a monastery of one of the Buddhist sects of Japan.

"The Labor Question" is treated from the point of view of a Western manufacturer, by Edward L. Day, while Theodore L. De Vinne gives his views on the question of "Co-operation."

TRADE NOTES.

WARM SPRINGS, N. C .- The new hotel of the Southern Improvement Co., at Warm Springs, N. C., has just been furnished with a complete laundry building and outfit after plans by the A. M. Dolph Co., of Cincinnati, who also supplied the laundry machinery.

MESSRS. GEO. W. TIFT, SONS & CO., Buffalo, N. Y., report that they are quite busy in most of their departments. They are building ten to twelve engines and boilers a week, besides stills, tanks and general machinery. They are doing also a large amount of architectural iron work, iron stairways, &c., notably for the library building and music hall in Buffalo, and for the new court-house at Lockport, N. Y.

TUSKALOOSA, ALA.-The Alabama Insane Hospital, at Tuskaloosa, Ala., Dr. Bryce, superintendent, has lately added to its laundry three new washing machines, of the latest and best construction. They are built entirely of heavy sheet brass, and are the perfection of cleanliness and durability, and, at the same time, are said to be the ost handsome machines ever put into the laundry. They were furnished by the A.M. Dolph Co., of Cincinnati, O.

THE Little Giant Excavator, made by the Vulcan Iron Works, of Toledo, Ohio, gives good satisfaction. Mr. Samuel Noble, the secretary and treasurer of the Woodstock Iron & Steel Company, of Anniston, Ala., writes: "We have now in use one of the Vulcan Iron Works' steam shovels. It is one of the best machines for doing the work we have ever seen, and whatever doubts we had as to its effective working have been dissipated by actual results. In soft dirt the machine has loaded five carts in eleven minutes. It is very effective in working among the mass and gravel ore, undermining working out the large masses, and equally effective in moving them out of the way. It does the work of sixty men, and loads the carts so rapidly that twice the amount of work can be done with one-half the number of carts formerly used, and on same length of haul. The machine has so far done everything we expected of it, and more than we supposed it was possible for it to do. We have not had any trouble in operating it. It is one of the machines we can cheerfully recommend as doing all that the builders claim for it."

THE Clayton Air Compressor Works, Brooklyn, N. Y., have just received an order for a large Duplex Air Compressor. The steam cylinders are each 12 in., stroke 26 in. and air cylinders 8 in. This machine is capable of taking in 500 feet of gas per minute. It will take eight weeks to complete the order. The machine will be set up and put in running order at the works, and satisfactorily tested before shipment, which will be to Sydney, Australia, through the commission house of W. H. Crossman & Bro.; of New York, it being the second of this class of machines ordered by this firm for the same parties-a good endorsement of Mr. Clayton's workmanship. It is only recently that our American manufacturers have been able to compete with the English makers for this class of heavy machinery.

MR. J. T. HARLEY, Clarksville, Ark., has been appointed general Southern Agent for Liesche's Burglar-proof Sash Lock, made by J. R. Clancy, Syracuse, N. Y. This sash lock is an article that sells readily, and agents desiring to handle it should correspond with Mr. Harley.

Important.

The improvements of the Grand Union Hotel are simply elegant, and the hotel is always kept in perfect order. It is so convenient to all the depots that guests arriving by the Grand Central Depot have their baggage transferred to and from the Grand Union Hotel in five minutes, free of charge. Guests arriving by steamer or railroad, South, North, East or West, are conveyed to the Grand Union Hotel by the elevated railroad for five to fifteen cents, thereby saving \$3 carriage hire. During the past year 110,000 people occupied the 613 rooms of the Grand Union Hotel at \$1 and upwards per day, including of course its elegant suites of rooms for families on the European plan. The dining-rooms, restaurant, cafe, lunch and wine-rooms were supplied with the best at moderate prices. Families lived better at

the Grand Union Hotel, and for less money, than at any other first-class hotel in New York.

THE American House, Boston, needs a recommendation to the generality of travellers, but it may be not amiss to inform those who are contemplating their first visit to the "Hub" that no hotel in that city is better than the "American." It is conveniently located to all lines of travel as well as the business portion of the city, and no effort is spared to maintain the high rank the house has held so long.

List of Patents

The following Patents were granted to citizens of the Southern States, bearing date June 29, 1886. Re-ported expressly for this paper by Louis Hagger & Co., Mechanical Experts and Solicitors of Patents, hington, D. C.

Barrow, D. C., Philomath, Ga. Cotton

steam engines......schmann, V. H., Baltimore, Md. Stiffen344,34

ing and distending spring for garments....344,767 Charpantier, J. V., New Orleans, La, Calcu-

...344,694 Cushing, John, Houston, Tex. Combined bag

eux, E. C., Jeannette, La. Lantern

holder......344,649
Hatcher, M. J., Macon, Ga. Plow......344,656
Hollingsworth, C. C., and F. Broyles, Knob,

ng beads in sand moulds. -344,657 for formi

inson. J. B., Holly Springs, Miss. Jack for replacing ties upon bales...... for replacing ties upon bales
Johnstone, H. W., Idlewild, Ga. Car coup

T. F., and T. Bailey, Athens, Ga.

Combined hair-brush and comb. 344 664 McCaleb, J. L., Benton, Tex. Measuring

Paull, A. W., and G. F. Butters, Wheeling, W. Va. Drawing sheet metal articles.344,457

Ky. Roll for rolling-millswyer, E. O., Point Pleasant, W. Va. Car Schrader, H C., Wheeling, W. Va. Mold

strip.....344.798

ATENT FOR INVENTIONS

(American and Foreign,) Trade Marks, etc., procured through the agency of

Arthur C. Fraser & Co. TEMPLE COURT, NEW YORK CITY.

(Entrance 5-7 Beekman St.) Hand-book of information sent free to any address.





RICHMOND MACHINE WORKS, RICHMOND, INDIANA

WEBBER'S Centrifugal Pumping Machinery.



FLAP VALVES

To be used on end of discharge Pipe, when using exhausters, to prevent air entering Pipe, and when submerged in tank to prevent water flowing back through Pump, shuts automatically; face of flap of non-corrodible soft metal.

THE LAWRENCE MACHINE SHOP. LAWRENCE, MASS.

Sales Department conducted by John Post, Jr., & Co., Mason Building, Boston, Mass.; Chas. W. Livermore, 111 Broadway, New York City; Fairbanks & Co., 202 and 304 Washington Ave., St. Louis, Mo.; H. P. Gregory & Co., 2 and 4 California St., San Francisco, Cal.; John S. Moore, 169 Gravier St., New Orleans, La.



Roller Tube Expanders.

Prices Low.

Good Workmanship & Material Gnaranteed C. S. KNIGHT, Selma, Ala.

BRADLEY'S UPRIGHT HAMMER

BRADLEY& CO. Syracuse, N.Y.

TAPER-SLEEVE PULLEY WORKS.



The Hardware Trade Should Sell the Ligowsky-Mueller Trap No. 7 K with "TEIPEL ARM" for C TONGUELESS Ligowsky C. P. CO. J. Cin'ti, O. Pigeo

HUGH SISSON & SONS.

140 W. Baltimore St., Baltimore,

Marble Monuments

Tombs, Altars, Counters, Furniture Slabs, Mantels, Tiles. Estimates and Drawings Free,

THE MARKETS.

OFFICE MANUFACTURERS' RECORD, BALTIMORE, July 7, 1886.

From nearly all parts of the country reports as to the trade indications show a continued improved outlook, with good prospects for a pretty heavy fall business. Consumption in nearly all lines of manufactured goods, cotton, woolen and iron, seems to be keeping well up with the production, notwithstanding that is very heavy, there being but little accumulation in stocks, unless it be in the low grades of pig iron. Business men generally are cheerful as to the future of trade and manufactures, and confidence seems to prevail in nearly all lines of business. Railroad building is progressing very well, and the Railway Age of last week presents some very encouraging statistics as to the prospects for track laying during the balance of this year. Since January 1, 1,755 miles of main track have been laid, or nearly double that of the same time last year. Of this 1,755 miles, 544 miles, or but little less than one-third, was in the South, Florida being the second State in the number of miles laid, Kansas being the The Railway Age predicts the building this year of over 6,000 miles, or twice as much as last year, and of this says:

"The fact that several thousand miles of new road will be added during the year has an important bearing on manufacturing and mercantile interests. Every added mile calls for increased production by our manufacturers and requires the employment of more men, besides opening to agriculture and commerce new areas of country. Hence the record of railway building is one of deep interest and importance to all."

One of the encouraging signs of business is the fact that failures are decreasing, both in number and in the amount of liabilities, Bradstreet's report showing that for the first six months of 1886, the total number of failures in the United States was 5,461 or 645 less than during the corresponding time of 1885.

The declines in the total amount of the liabilities for six months past, as against previous years, are \$15,300,000 from the total of \$68,570,000 liabilities in the first half of 1885, or about 22 per cent.; \$70,-863,000 from the total of \$124,104,000 liabilities in six months of 1884 (panic year) or 57 per cent., and \$20,300,000 from the total of \$73,594,000 in six months of 1883, or about 27 per cent.

There have, therefore, says Bradstreet's, been much greater declines in the aggregate indebtedness of failing traders during the past six months than the proportionate decrease in the total number of failures would suggest, which points significantly to the growth of business towards normal conditions and away from the disturbing influences which have so depressed trade and contributed to mercantile disaster for several years prior to the present one.

Bradstreet's June report of the cotton crop says that "while the reports from three States are very good, the preponderance of unfavorable answers from other States is such as to show the crop to have been almost at a standstill in the matter of progress during June. In examining the detailed figures, and comparing them with those of a year ago, some comfort is derivable in the fact that in Texas, Arkansas and Florida, the plant conditions will rank as good, and, indeed, in the first two States, will exceed the good conditions of last year. In North Carolina, also, the outlook is nearly as good, and will equal last year. In South Carolina, Georgia and Tennessee, the general condition and outlook will rank as fair, and will not equal last year. In Alabama and Mississippi things are between fair and bad, and in the latter State especially, the condition of things is far from favorable. Louisiana is rather mixed, the Mississippi side of the State returning rather an unfavorable

report, while on the Texas side things seen well toward good. * * The situation which may now be characterized as slightly below fair, may improve materially as the month advances."

In manufactured iron the usual dullness of the summer months is felt, and trade is light, with prices low as last quoted, viz:

Ref. Bar Iron, 1 to 6x36 to 1	m.	1.85@	3
" " 1 to 41/4x11/4 to 1	**	1.85@	2
" " % to s, round and			
square	04	1.85@	2
Hoop Iron, 11/4 wide and upward	64	2560	234
Band Iron, from 136 to 6 in, wide	06	a.30@	256
Horseshoe Iron	**	2.75@	-
Norway Nail Rods	86	4%@	5
Black Diamond Cast Steel	64	9 @	10
Machinery Steel	44	31/2@	4%
Spring Steel	44	31/400	4
Common Horse Nails	66	8 @	0
Railroad Spikes, 529x9-10	88	2/4/4	2%
Horse Shoes, & keg			3 85
Mule Shoes, "			4 85
Steel Boller Plate,	**	31/8/00	35%
Iron Boiler Plate		2140	4 4
Boiler Tubes		35% 0	ff lis

Pig iron is in rather better demand in ome iron centers, but locally business continues dull. We quote as follows, viz:

Baltimore	Charcoal	Wheel	Iron (all	
Baltimor	re ore)			00@36 00
Virginia C	. B. Charce	al Whee	l Iron 25	00@26 00
Anthracite			18	
44	" 3		16	00@17 00
68	** 3		15	00@16 00
66	Mottled a	and Whit	e 13	00/814 00
Old Iron F	tails		10	00@20 00
			20	00@21 00
Old Steel 1	Rails		90	00@22 00
No. 1 Wro	ught Scrap		19	00(\$20 00
Old Car V	Vheels		15	00@16 00

HARDWARE.

As usual at this season buying is slack, and trade generally is rather dull. A meeting of some leading manufacturers, including Sargeant & Co., Peck, Stowe & Wilcox, Russell & Erwin, and the Perin & Gath Manufacturing Co., was held a few days ago, at which it was decided to make a general advance of 10 per cent. on all the goods of their manufacture. The attempt to force prices up in this way, is thought by some houses to be a mistake, and they hardly believe it probable that the advance can be maintained, unless it should frighten buyers to come into the market, thus stimulating the sales of hardware. Our wholesale quotations have not been changed this week to meet this advance, as full particulars have not yet been received in Baltimore.

Nails are still rather dull, with prices quoted at \$2, below which some manufacturers refuse to sell, but lower figures are obtainable for car load lots.

Philadelphia Iron Market.

PHILADELPHIA, July 6, 1886.

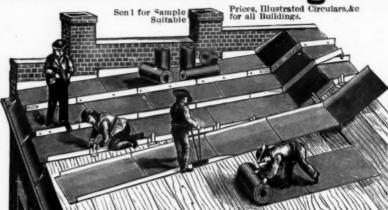
As only five rolling mills will be on a strike in this State, the trade generally will not be affected. Things are moving along quietly. There is in all branches a heavy production and a heavy consumption of goods. Sluggishness does not exist anywhere, and nowhere is there a lack of confidence. We are of opinion that an improving demand is at our doors for all kinds of furnace and mill products. The city mills will not probably make any iron this month; the men want to rest. Demand will be steady, but will be met by outside mills. Nails are under better enquiry at present, though prices do not show it. Quotations are \$2.00, with 10 or 15 cents under for large lots. The plate mills, sheet mills, bridge mills and wrought pipe mills are all well fixed, the latter especially. Rails are quoted at \$34 and \$35, with an upward tendency at work. We do not fear Randall's bill. Old rails would sell better if holders were more anxious to get rid of stocks. We are enjoying quite a boom in building. Houses are going up by the hundred. The anthracite coal trade is fair. A good many buyers do not believe that even the present low prices can be sustained. Everything depends on how the fall trade We can form an opinion in about develops. two weeks.

JOHN F. HAZEN, Prest. JAMES HICKS, Treas. J. G. BATTELLE, Sec'y.

Over 1500 Tons Iron ii

OUR WIDTHS OF CORRUGATIONS MADE! STANDING SEAM PLAIN ROOFING! All Paint Re-ground in Pure Linseed Oil!

Holton Iron Roofing Co.



isbon.

SYKES IRON ROOFING CO., NILES, O. IMPROVED sy Put On.



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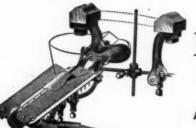
THE LIGHTNING IMPROVED POST HOLE AUGER

Will bore 200 3-ft, holes in one day, without any downward pressure.
Will pay for itself in one day.

STRONGLY MADE. Send for prices and large descriptive circular to

PETERS & LEDLIE MANUFACTURING CO.
1115 North Broadway, - - ST. LOUIS, MO.

The American Nail Machine Co.



AMERICAN PATENT

Improved CUT NAIL MACHINES.

Automatic Nail Selectors and Nail Factory Supplies. ASHTABULA, . OHIO.

Prices and particulars furnished on application

Carriage, Wagon and



Licensed Makers of ALL LEADING PATENTED SPRINGS.

Cincinnati Iron Market Report

Specially reported by Rogers, Brown & Co., Pig

CINCINNATI, July 5, 1886. The better feeling which has lately been observed continues to prevail. A moderately active buying is taking place, and a number of the larger buyers have this week been picking up blocks of one to two thousand tons each, at what were considered bargains. Prices are still irregular, and some of the surplus iron will yet have to be moved off before they can show a decided firmness. Strong foundry iron seems in lighter supply than other qualities, while forge grades and "softeners" are in excess. We quote on the cash basis as below: HOT-BLAST FOUNDRY.

	***	A C - Married D	FUL	LA PART E				
Ohio and	Souther	n Strong					00@17	
	**	**		No.		*5	50 0 15	00
Ohio Sol	t Stoneco	al,		No.	1	17	00/4 17	50
	g and S			ey Co	ke,	-	50% 16	-
No.	I	*******				18	co@19	00
		CHARCO	AL TH	ON.				
Hanging	Rock,						00(0)21	
	**	2	No. 2			18	03@20	00
Tennesse	ee and Al							
**		1	No. 3			16	50@17	50
		,	ORGE	£.				
Strong N	leutral Co	oke			\$	14	00@15	00
Mottled	68	******				13	00@13	50
Cold She	ort	*******				13	00@14	00
	CAR W	HEEL A	ND M	ALLE	ABLE			
Southern	Car-Wh	eel Iron.			!	24	00@24	00
Hanging	Rock C.	B				95	00@27	00
44	" W	. B				20	00@22	00
Lake Su	perior Ma	alleable.				22	00@23	00

Specially reported by E. L. HARPER & Co. CINCINNATI, July 5, 1886.

Good feeling still exists and the future seems brighter; the reports from all sections are more favorable; the foundries have good contracts, therefore there is considerable inquiry for foundry grades. Many of the agricultural implement makers are now anticipating their wants for next season, and should there be the buying that is now anticipated during this month, the report of sales will show a large increase over any month for the past year. No change in prices since our last report. We quote:

	,	OUND	RY.		Car	sh,
Hanging R	ock Charcoa	, No.	2			
Southern Cl	harcoal	66	2	18	75@19	75
Strong Neur	68	40	9	17	50/017	50
American'S	GRE	Y POI				
Neutral Col Cold Short				15	50@15	50
	CAR WHEEL	AND B	GALLEABLE	K.		
Hanging Re	ock, strictly	cold b	last	25	00@26	00

ing Rock, strictly cold dist..... 25
ing Rock, strictly warm blast..... 21
aberry," N. Carolina Warm Blast.... 20
Erst and Virginia Warm Blast.... 20
Super.or Charcoal, all grades..... 23

Louisville Iron Market.

ially reported by GEO, H. HULL & Co., Com-ssion Merchants for the sale of Hot and Cold

LOUISVILLE, KY., July 5, 1886.

Inquiries for iron during the past week have been more numerous than during the previous week, although actual sales have not been quite so large, yet larger buyers are showing some disposition to take hold at present prices. Prices remain ostensively the same as in our last report. We quote for cash in rounds as below:

			FIG	LEUR	••			
Southern	Coke	No.	Fou	ndry				
**	**	**	2	88		. 15	50@16	50
66	68	46	236	64		. 15	00@16	00
Hanging	Rock	Coke	, No.	z Fe	oundry	. 16	50@17	00
44					**			
Southern								
Silver Gr								
Southern	Coke	No.	z Mill	, No	eutral	. 14	50@15	00
48	66	88	2 "		44	. 13	50@14	00
44	**	44	E 44	Co	ld Short	. 14	00@14	50
Southern								
White an								
Southern	Car V	Vheel,	stand	iard	brands	. 24	00@25	00
44			othe	r br	ands	. 20	00@21	00
Hanging	Rock	Cold	Blast.			. 24	00@25	00
44	66	Warm	**	****		. 20	00@21	00

THERE is no trade journal that comes into this office that shows a keener appreciation of the industrial situation of the South than the MANUFACTURERS' RECORD, and the special work it is doing in the interests of that section should commend it most favorably, not only to the people there, but also to manufacturers and dealers who desire to enlarge their business in that direction.—St. Louis Stoves and Hardware.

THE New York World is still engaged in the pleasant work of adding to its subscribers. The circulation shows a steady increase every week, and it is now become a matter of inquiring wonder as to where it will stop. The Sunday edition passed the 200,000 mark some months ago, and is now working its way up towards 300,000.

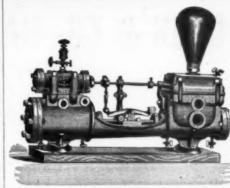
CORRESPONDENCE relating to the manufacturing, mining, lumbering and all other material interests of the Southern States is solicited. Reaching so many capitalists in all parts of the United States seeking profitable investment in the South, the MANU-FACTURERS' RECORD offers an excellent chance for the people in that section to place the advantages of each locality before those likely to be interested. We will take great pleasure at all times in telling what has already been accomplished in the South, and showing up the opportunities of doing still more.

Get the Best at First.

The Holyoke Machine Company, of Worcester, Massachusetts, advertise in this issue their well-known Hercules Water Wheel. This wheel has many points of merit that strongly commend it to the attention of those who use water power. The most thorough tests have demonstrated its many good qualities. In Holyoke it is the standard water wheel, the aggregate horse power of the Hercules wheels in operation there being greater than that of all other wheels combined. These wheels are very popular in the South as well as in the North, having been in use for many years in a large number of Southern mills. There are four of the Hercules wheels now in operation in the big cotton mills of the Eagle & Phenix Manufacturing Co., Columbus, Ga., and Mr. John Hill. of that company, in writing, Feb. 35, 1885, to the Holyoke Machine Co., said: "Within the past four years I have ordered four Hercules' wheels all of which have given the purchasers entire satisfaction. Three of the wheels are on regular duty in the Eagle & Phenix Mills. The first wheel ordered did so well that a 'Hercules' wheel has been added each time a new wheel was wanted. In the Eagle & Phenix Mills I supervise twenty water wheels of six different styles. The 'Hercules' is by far the most durable and best made wheel in use here, and, in fact, I know of no wheel its equal mechanically. It is all that can be desired in economy of water. In fact, is a strictly first-class wheel in every way, and the wheel to buy, use and depend upon."

That is a pretty strong letter, but it is only a sample of letters received by the manufacturers of this wheel. Among the recent shipment of wheels have been two—one a 54-inch and one of 66-inch—to a Georgia cotton mill. Two Hercules wheels are being put in at Natick Cotton Mill, and one at the Arctic Mill of B. B. & R. Knight near Providence. This will make eleven wheels furnished to this well-known firm, one of the most prominent in the manufacturers say: "The Hercules gives the most power for its size and the highest average percentag

HE Manufacturers' should be in the hands of every manufacturer and business man who desires to keep informed as to Southern industrial affairs, or who has any interest or concern in the progress of the South. The wonderful development of the South is attracting attention all over the world, and the progress of this development is faithfully chronicled from week to week by the Mannfacturers' Record It is conceded to be the foremost exponent of the industrial interests of the Southern States. Price \$3.00 a year.



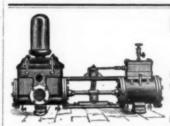
The STANDARD Steam Pumps.

The STRONGEST and MOST DU
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Made of Malleable Iron and cannot be broken. Equal all respects to cords and weights, and at one-tenth the latter to the capplied with a screw driver by any handy craon. ACTIVE AGENTS are requested to send adcost. Can be applied with a screw driver by an person. ACTIVE AGENTS are requested to dress for proposition to their financial advantage HARLEY, Genl. Agent, Clarksville, Ark. Manufac

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merican Screw Co.—Screws, Rivets, Bolts, etc. anford Lock Works.

Bokthorn Fence Co.—Buckthorn Fencing. air Manufacturing Co.—Easy Lawn Mowers. as Molasses Gates.

fialo Hammer Co.—Cast Steel Hammers.

S. Bell & Co.—Farm Bells.

17 & Crawley.—Shelf and Saddlery Hardware.

18 Bros. & Co.—Bolts.

Chapin's Sons.—Planes, Rules, Levels, etc.

10 Chatillon & Son.—Spring Balances.

S. Olark & Co.—Hand and Sleigh Bells.

AGENTS FOR

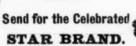
A. Field & Sons.—Tacks, Finishing and Shoe Nails
Gooch Freezer Co.—Peerless Freezers.
H. C. Hart Manufacturing Co.—Shutter and Spring Hinges, Screen
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W. T. Merserean & Co.—Stair Rods, Dog Collars, &c.
Nicholson File Co.
Peck Bros, & Co.—Brass Cocks.
Patton Manufacturing Co.—Enameled and Finished Stoneware, &c.
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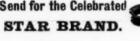
Harvey W. Peace Co.—Hand, Rip and Panel Saws.
H. W. Reed—Brick and Plastering Trowels, Shoe Knives, &c.
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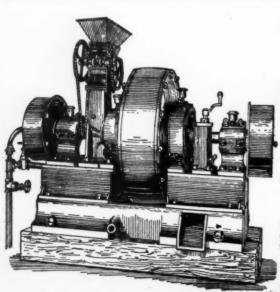
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Collins & Co
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Sheldon & Co., iron
Spring Balances
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Barbed, ¼ in. and larger
Pagnall & Loud
Cast Iron Barrel Shutter, &c. dis 55&10 s Cast Iron Chain (Sargent's list). dis 60&10 s Wrought Square. dis 55&10 s Wrought Square dis 55&10 s Wrt. Shutter, all Iron, Stanley's list. dis 50&10 s Wrt. Shutter, Sargent's list. dis 50&10 s Wrt. Shutter, Sargent's list. dis 50&10 s Wrought Shutter, Sargent's list. dis 56&10 s Wrought Shutter, Sargent's list. dis 56&10 s Wrought Sunk Flush, Sargent's dis 50&10 s Wrought Sunk Flush, Sargent's dis 50&10 s Wrought B. K. Flush, Stanley's dis 50&10 s Wrought B. K. Flush, Stanley's dis 50&10 s Carriage and Tire, Common, new list. dis 50 s Carriage and Tire, Chiladelphia Pattern. dis 50 s Carriage Bolts, Clarke's dis 75&10 s Norway. dis 75&10 s R. B. & W. Carriage (old list) dis 55&10 s Tire, American Screw Co's., Phila dis 59 s New list Eagle. Philadelphia Tire Bolt. dis 89 s Norway dis 75 new list Eagle. Philadelphia Tire Bolt. dis 89 s Norway dis 75 new list Eagle. Philadelphia Tire Bolt. dis 89 s Norway dis 75 new list Eagle. Philadelphia Tire Bolt. dis 89 s Norway dis 75 new list Eagle. Philadelphia Tire Bolt.
Bolt Ends and Lag Screwsdis 75&10 \$
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BORING MACHINES-WITHOUT AUGEST
Amidon's dis 50 % BORING MACHINES—WITHOUT AUGERS. Sweet & Clark upright, 3.60 angular
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Shelf, fancy..., dis 50&ro \$ Divid

BALTIMORE MANUF	n
SRIGHT WIRE GOODS,	I
New list	
BUTTS. SUTTS.	
Humason, Beckley & Co's. dis 60&10 \$ Wrought Brass. dis 70 \$ Cast Brass, Fast Joint dis 20&10 \$ Cast Brass, Loose Joint dis 10&10 \$ Fast Joint, Narrow dis 60&10 \$ Fast Joint, Broad dis 60&10 \$ Loose Joint. dis 70&10 \$ Loose Joint, Jap, with Acorns dis 70&10 \$ Parliament Butts dis 70&10 \$ Auger's Hinges dis 70&10 \$ Loose Pin, Acorns dis 70&10 \$ Loose Pin, Acorns, Japanned dis 70&10 \$ Tips dis 70&10 \$ Loose Pin, Acorns, Japanned dis 70&10 \$ Tips dis 70&10 \$ Loose Pin, Acorns, Japanned dis 70&10 \$ Tips dis 70&10 \$ Loose Pin, Acorns, Japanned dis 70&10 \$ Loose Pin, Acorns, Japanned dis 70&10 \$ Tips dis 70&10 \$ Loose Pin, Acorns, Japanned dis 70&10 \$ Loose Pin, Acorns, Loose Pin, Acorns	
Loose Pin, Acorns, Jap'd, Plated Tips	
Fast Joint, Narrow dis 65% Fast Joint, Lt. Narrow dis 65% Fast Joint, Broad dis 65% Loose Joint, Broad dis 65% Loose Joint, Broad dis 65% Table Butts, Back Flaps, &c dis 65% Inside Blind, Regular dis 65% Inside Blind, Light dis 65% Loose Pin, Wrt dis 65% Loose Pin, Light dis 65% Loose Pin, Light dis 65% Sprng Hinges— dis 65%	
Inside Hind, Light	
Humason, Beckley & Co's	
Humason & Beckley Mfg. Co	
American	
U. M. C., F. C. trimmed 50c dis 10&10 % 10 % 10 % 10 % 10 % 10 % 10 % 1	
" " Militarydis 1.60 \$	
Rim-fire, 22 short. \$ 5 long \$ 6.00 " 32 " 10 " 15.50 " 38 " 18 " 18.00 " 41 " 15 " 17.50	
B. B. Caps, Round Balls 1.45 "Swaged Conical 1.75 **New LIST ON CARTRIDGES.** **Rim-fire, 22 short \$ 5 long \$ 6.00 " 32 " 10 " 15.50 " 38 " 18 " 18.00 " 34 " 15 " 17.50 **Central Fire—32, \$11.00; 38, \$13.50; 41, 15.00; 44, \$19. **Charps.** **Lord Cotton, new list, July, 1881 dis 10 \$ **Cotton, new list, July, 1881 dis 10 \$ **CARPS.** **CARPS	
Cast Steel, Polished	
Plate and Shallow Socket	
CATTLE LEADERS. Humason, Beckley & Co's	
CHAIN. German Halter and coil Chaindis 50&10 % Trace, Breast and Fancydis 60 % Oneida Halter Chain (old list)dis 43&5 % Galvanized Pump Chain	1
Red	
Cotton Fish Lines]
Socket Framing Crossmans dis 65&5 %	8
Iron, Screw, Eagle	
CUPS, AXLE. Norway or Best	
COCKS, BRASS. Racking, new list, July 10, 1880dis 60&10&5 ≸ Slobe, new list, July 10, 1880dis 60&10&5 ≸ Plain Bibbs, new list, July 10, 1880dis 60&10&5 ≸ Ala and Ber, new list, July 10, 1880dis 60&10&5 ≸	ii sba
COFFEE MILLS. dis 45 \$ Wilson's	



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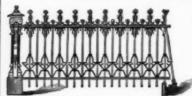
a scen cutting edge before being tested by use, they can easily be remo aced. This may be repeated as of the necessity of purchasing new co loes not keep them, address.

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700	BALTIMORE MANOF
Bradley's dis 25@20 \$	Warner & Noble's
Cast Steel	HANDLES.—Door or Thumb Latches. Nos o 1 2 3 4 Per dor. 50.80 1.00 1.18 1.35 1.50 dis 55&10 5
COOPERS TOOLS.	HANDLES. — Door or Thumb Latches. Nos o 1 2 3 4 Per dos \$6.30 1.00 1.18 1.35 1.50 dis 55&10 5 Roggin's Latches \$8 doz \$0.90 \$0.10 Jap d Store Door Handles—Nuts, \$1.25; Plate, no Plate, \$1.10 dis 10 5 Barn Door
Fitch's new list	Wrought Chest
Lawrence, "Perfect"dis 25&10 % Rubber	Lifting
Silvered Glassnet White Enamelnet	Brad Awl
Association (Table)	Surface Chest
Wilson's Butcher and Shoe Knivesdis 30 \$ Ames' Shoe Knivesdis 15 \$ Wm. Rogers Mfg. Co., Plated CutleryNet	White Mountain, per doz\$36. "Finished in red, per doz\$42.0
Dog Collars. dis 20 \$ Leather dis 20 \$ Leather dis 25 \$ Embossed Gilt dis 25 \$ Embos	HANGERS. Cronk Hanger Co.— No. 4, per doz. pair
Torrey's Rou, regular size, in dos., \$3. dis 400 to \$	Cronk Hanger Co
No. 2, Medium Japanned	Barn Door, New England
Gem (Coil): No. 1, Large Japanned	Underhill's35 %
Hercules	Haines' Solid Steel
Crossman S to 1	Blood's
P. S. & W	HAV KNIVES. Gem
P. S. & W	Wadsworth's dis 30 %
Breast, Bartholomew'seach, \$2.50, dis 25&10 % Wilson's Drill Stocksdis 10 % Automatic Boring Toolseach, \$2.25, dis 20 %	Plate Hinges {8,10&12 in
Automatic Boring Toolseach, \$2.25, dis 20 \$ BGG BRAYRES. Dover	doors, double action, dis 55 %. Crown Screen Door Latch
Regular numbers	doz \$9; 3-inch, \$12
ENAMELED AND TINNED WARE. dis 608:10 %	A. M. Co. Clothes Wringer, No. 2 rolls, 10x1½, \$\frac{1}{2}\$ dox \$\frac{1}{2}\$37.50; No. 2½ rolls, 12x1½, \$\frac{1}{2}\$48
Escutcheon Pins—Brassdis 50 % ESCUTCHEONS. Door LockSame discounts as Door Locks	Heavy Welded Hook 14 in. & up, \$6 \$1 100 lb. 20\$
### ### ### ### ### ### ### ### ### ##	dors, soude action, dis 35 %. Crown Screen Door Latch
Fenn's Cork Stops dis 33½ % Star dis 55&10 % Frary's Patent Petroleum dis 20&10 % West's Patent Key dis 45 %	Planters
Bacutcheon Pins—Brass dis 50 %	Hick's Pat. Solid C. S. Planters'dis 60&10 % Hick's Pat. Solid C. S. Scovill Patterndis 60&5 % Hubbard, Bakewell & Codis 60 % HORSE NAILS.
J. Sommer's Cork Lined, 1st qualitydis 50 \$ FILES. E. M. Boynton'snew list, dis 25 \$ Western File Codis 45 \$	Ausable: Nos. 5 6 7 8 9 10 Plain, \$\overline{\pi}\$ Billow 25 25 26 24 23 2 22 dis 20 8 10 \$\overline{\pi}\$ Finish'd \$\overline{\pi}\$ Billow 25 26 26 25 24 2 32 dis 20 8 10 \$\overline{\pi}\$ Clint'n, \$\overline{\pi}\$, \$\overline{\pi}\$.
Files.	Finish'd # B. 31c 28c 26c 25c 24c 23c. dis 20&10 % Clint'n, Pin, "
Nicholson	Globe, "96c 23c 21c 20c 19c 18cdis 10&5 \$ N'thw'n "98c 23c 23c 22c 21c 20c.dis 10&10 \$ Champlain
FLUTING MACHINES. Knox, 4½-inch Rolls	A. C., \$\\ \text{D}\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
Eagle alk-inch Roll	Bridgewater36c 25c 23c 22c 23c 23c
Crown Jewell	Burden
Geneva Hand Fluter, White Metal, \$\pi\$ doz \$12 dis 25 \$\frac{\pi}{2}\$ Crown Hand Fluter, Nos. 1, \$15; 2, \$12.50; 3, \$10,50; 4, \$8.25 \$\pi\$ doz	Mule Snoes Walker's—Forged: (Light, Medium and Heavy.) Horse
Lawson & Breniser dis 60 \$ Remington dis 50&10 \$ Sheble & Fisher dis 50&10 \$ PRY PANS.	Burden
Burnished list as follows	Diamond State Mule Shoes to a the
Burnished list as follows	Shoes. \$3.87½ 爭 keg Phenix Light, Medium and Heavy Horse Shoes. \$3.87½ 爭 keg Phenix Mule Shoes. \$4.87½ 爭 keg Ox Shous—Mt. Carmel Ox Shoes tocts. 爭 助.
	OX SHORS—SIL CARREN FREEZERS. Peerless—3 quart, \$4.50; 4 quart, \$5.50; 6 quart, \$7. 8 quart, \$9; 10 quart, \$12. "Giant"—14 quart, \$20; 18 quart, \$5; 21 quart
Sail and Spike	"Giant"—14 quart, \$20; 18 quart, \$25; 21 quart \$30; 25 quart, \$35; 32 quart, \$40; 42 quart, \$45. Discount 50&10 \$. American—2 quart, \$2.75; 3 quart, \$3.25;
Double Cut, Hartwell's	
	4 quart, \$3.75; 6 quart, \$5. each
Reading Hardware Codis 25&10 \$	8 quart, \$13; 10 quart, \$10; 14 quart, \$20; 18 quart, \$40; 24 quart, \$37.30
Eley's B. E. wads, 11 upwards. \$1.75 " 9 and 10. 2.00 " 7 8. 2.25 " P. E. 11 upwards. 2.25	\$6; ro quart, \$1; 14 quart, \$14,
HAMMERS.	KNOBS.
Maydole's dis 15 % C Hartford Hammer Co dis 2 % I Magn'c Tack, Nos. 1,2,3, 1.26,1.50 and 1.75, disa5&10\$ I	Carriage, (Jap'd 80 c % gross)dis 60&10 % Base—Commondis 30&10 % Hemacite Door Knobsnew list, dis 35&3 %

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Door Mineral Door Por. Jap'd Door Por. Jap'd Door Por Furniture Plain	
Door Por	1
Picture	1
Melting & Skim'ng, Monroe's Pat. W doz \$4dis 40 Melting, C & C	1
Acme Buckeye, Easy & Excelsior, new list.dis 40&10 \$	1
Wire Clothes, Galvanized, 100 feet dis 25&10 f	2000
Lines Fish	-
Cabinet, P. & F. Coroin	
Bradford	i
Bradford Norwalk Norwich P. & F. Corbin. Dec. 18th, 45 & 2 g for cash. Mallory, Wheeler & Co. Nimick & Brittan Mfg. Co. Wm. Wilcox & Co. Wm. Wilcox & Co's Plate Locks Naleck & Brittan Mfg. Co. Wm. Wilcox & Co's Plate Locks Wm. Wilcox & Co's Plate Locks Yale Lock Manf. Co. Wn. Wilcox & Co's Plate Locks Somer's Conestoga dis 25 % ods 25 % Scandinavian, "Norwich" MALLETS MAL	1
Mailory, Wheeler & Co Nimick & Brittan Mfg. Co Padlocks—Russell & Erwin	-
Mallory, Wheeler & Co	
Wm. Wilcox & Co's Plate Locksdis 33 % % Yale Lock Manf. Co's "Standard"	9192
Conestoga	000000
Penfield Block Co., Apple, Hickory and Lignumvitædis 30 \$	200
Dixon's (P. S. & W.) Nos. 1 2 3 4. # doz \$14 \$17 \$19 \$30-dis 35 \$	5
Each\$3 4 5 11 13 36 dis Woodruff's (P. S. & W.)Nos. 100 150	94400
Hales'	B
Nimick & Brittan's Burglar-Proof Locksdis 50828 Penfield Block Co., Apple, Hickory and Lignumvitæ	8
Stebbins Patterns	CN
Stebbins Patterns dis 70&10 \$ Stebbins Genuine dis 67½&10 \$ Stebbins Tinned Ends dis 40&10 \$ Chase's Hard Metal dis 50&10 \$ Self-Measuring, (Enterprise) dis 95 Lincoln's Pattern dis 60&10 \$	CPSS
Lincoln's Pattern dis 60&10 \$ Weed's dis 13 \$ Boss Nos. 1 2 3 4	SSS
Boss Nos. \$7 \$8 \$9 10 a doz Boss, Japanned Finish dis fo&ro&ro \$6 10.5 \$8 \$9 10 and dis fo&ro&ro \$6 10.5 \$1	S
Square Nuts	S
OILERS. dis 60&10 \$ Brass and Copper dis 50 \$ Malleable (Hammer's) B doz \$5, dis 10 \$	V. E
Per dozen	M
PLAITING MACHINES. Astor Plaiting Machines. ——each \$15, dis 20 \$ Crown Plaiting Machines. ——dis 25 \$ 6 in., \$6; to in. \$8 each.	BBBBB
Bench, First Quality dis 20 \$ Bench, Second Quality dis 25 \$ Molding dis 15 \$ Bailey's (Stanley R. & L. Co.) New list, Jan.	BDDDD
Railey's (Stanley R. & L. Co.) New list, Jan. 1879 dis 20&10 ≸ The Stanley (S. R. & L. Co.) new list, January 1879	H

Bailey s
Hall's Pat. Compound Lever Cutting Nippers, No. 2, 5 in. \$13.50; No. 4, 7 in., \$21 \$\pi\$ doxdis 25 \$\frac{1}{2}\$ Gas Pliers
Disston's dis 40 % Stanley R. & L. Co.'s Pat. Adjustable.dis 65% ro&ro \$ Stanley R. & L. Co.'s Non-Adjustable.dis 65% ro&ro \$ Chapin's Patent Adjustable dis 65% ro&ro \$ Chapin's Non-adjustable dis 65% ro&ro \$ Standard Rule Co.'s New Adjustable dis 65% ro \$ Standard Rule Co.'s Non-Adjustable dis 65% ro \$ Pocket Levels dis 65% ro \$
Pocket Levels
Small. Med. Large.
Per 100 feet
RODS.
Stair, Brassdis 25 % Stair, Black Walnut
Borwood Ivory
Chapin's
Self-Heating, Charcoal
Bacder & Adamson's Flint, 00@2½\$4,50 % r'm. Bacder & Adamson's Flint, 2,2½&3,-5.00 % r'm. Bacder & Adamson's Flint, Assort'd 4.75 % r'm. Bacder & Adamson's Star
Clancy's No. 100, per gross dis 20% Nimick & Brittan Mfg. Co dis 50%
Common B, 14c. net Patent Braided Lake Hemp. B, 17c. gisc. net Silver Braided Lake White Cotton, B, 50c. dis 10 \$ Silver Braided Lake White Cotton, B, 50c. dis 10 \$ Silver Braided Lake Drab Cotton, B, 50c. dis 10 \$ Silver Lake Cable Laid, Bengall Unbleached Hemp, 17 cts. dis 10 \$ Russian Hemp, 19 cts. dis 10 \$ Iralian Hemp, 19 cts. dis 10 \$ Samson Braided, white cotton. dis 30 \$ Samson Braided, white cotton. dis 30 \$ Samson Braided, white cotton. dis 30 \$
Solid Eyes, in 500-fb. lots and over, \$\Psi\$ fb. 1\fc. net SAUSAGE STUPPERS OR FILLERS.
Miles
Boynton's Lightning Cross Cuts, new list dis 40 \$ Boynton's Circular and Mill dis 40 \$ Boynton's Ice

Hubbard, Bakewell & Co., Mill Saws dis 40 € 5
Peace Circular and Milldis 40 %
Peace Circuiar and Mill
Peace Hand, Panel and Ripdis 25 \$
Peace Cross Cutsdis 35 \$
Peace Band Saws, all widthsdis 10 \$
Webster Cross Cut, with handles, dis 25&10&10 \$
Webster Cross Cut, with handles, dis #50x100x10 %
Griffin's Hack Saws and Bladesdis 30 \$
SAW FRAMES.
White \$ dor \$1.05, dis 10 \$
Saw Rods
SAW SETS.
Stillman's Genuine, & doz \$3.50 and \$5.50 dis 10 \$
Stillman's Imitation & don \$3.25, dis 30810 \$
Stillman's Imitation B dos \$3.95, dis 300010 \$
Common Lever doz \$2.00, dis 30kro \$
Leach's
Hammer, Hotchkiss \$5.50, dis 10 \$
riammer, riotenkiss
Aiken's Genuine \$13.00, dis 50&10 \$
Aiken's Imitation \$7.00, dis 50 \$
Disston's
Mamille No & due, No e den dis naftro d
MOTTH 8 140. 1, \$15; 140. 5, \$52; dis 350.10 \$
SCALRS.
Hatch, Counter, No. 171 \$ dos \$42, dis 37 1/2 10 \$
Hatch, Tea, No. 161
Union Platform Kaustone 46 die 15 d
Ottom Carlo
Chicago Scale Co Special dis
Fairbanks'dis so \$
Forsyth Scale Godis 45 \$
Howe'sdis aok 10 \$
Chatillon's Grocers'dis 40 \$
Chatillon's Eurekadis 25 \$
Family Universaldis 50 \$
Family Favoritedis 30 %
Parity Pavorite.
Family Turnbull'sdis 30 %
Scale Beams, List of Jan. 19, 1889dis of
SCRAPERS.
SCRAPERS.
Adjust. Box Scraper (S. R. & L. Co.) \$6.50, dis 20&20 \$
Box, 1 Handle doz \$4, dis 10 %
Box, 2 Handle Moor \$6, dis 10 %
Footdis 458c10 \$
FOOLdis 450c10 %
Ship, common doz \$3, net
Wilson Mfg. Co dis 10 \$
SCREW DRIVERS.
Douglas Mfg. Codis 20810 \$
Douglas mig. Co
Disston'sdis 40 %
Cowles Mfg. Codis 508:108:10 \$

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Hand Ra	il, Am. S	new Co	list Inn	7 'Br	dia m	
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Jack (SCREEK!	PRAMES	AND BIN	THE RE		
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44	Window	Corner	No. 5, Irons, 1	No a de	in Socker	7
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No. 4%.		Beer	or Door, ed, \$2.00;	GOZ S	ets,	-
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No. 21/4.		Door,	doz set	Brons	ed,	
9.7	**	** *	#0.75; I	Vickel,	\$15.00	
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Massachu						
Massachu Seymour'				di	s 6o8cro	
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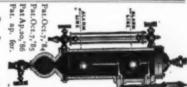
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Stephen's Patent Vises
Brass and Copper, list of Jan. 17, 1884dis 30 x Bright and Annealed
Galvanized Barbed Fence B 5c

WRENCHES.	
American Adjustabledis 4 Baxter's Adjustable "S," llst Jan., 1880dis 208 Baxter's Diagonaldis 508. Coes' Genuinedis 6 Coes' "Mechanics" dis 608.1 Coes' Pattern, Malleabledis 7 Coes' Pattern, Wroughtdis 608.1 Girard Standarddis 508.1 Girard Agldis 608.2 Always Ready	58
WRINGERS. Per d	or.
Universal, XX, No. 2½	dis 10
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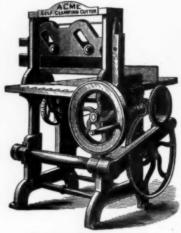
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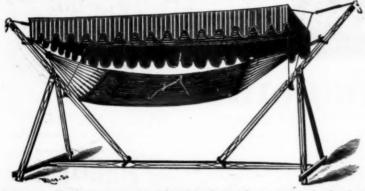
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Black Lamp, ordinary	de.	666
Black Ivory Drop, fair	126	@150
Black Ivory Drop, best		.200
Black Paint, in oilkegs, 6c; assort	ed can	15, 90
Blue Prussian, fair to best	300	9400
Blue Prussian, fair to best, in oil	350	@400
Blue Chinese, dry	*****	. 700
Blue Ultramarine	. 136	g)250
Brown, Spanish		A
Green chrome	36	9120
Green, chrome, in oil	0(0)136	@14C
Green, Parisgood, 20	c; best	, 250
Green, Paris, in oilgood, 20	c; best	, 250
Iron Paint, bright red	d &	2140
Iron Paint, brown	on 14.	1 1/2 C
Iron Paint, purple	. THE	3C
fron Paint, ground in oil, bright red	# ID	575C
Iron Paint ground in oil brown	The fib	414c
Iron Paint, ground in oil, purple	d &	6c
Linseed Oil, raw		.44C
Single Boiled		.46¢
Double "		.48c
Mineral Paints	2	@4C
Orange Mineral		. oc
Red Lead, American	0%	(0)7C
Red Venetian, (English) dry	So to p	1.75
Red Venetian, in oilassorted cans, 9	Si Kegi	0,00
Rose Pink	106	013C
Sienna, American, raw		4C
Blue Prussian, fair to best, in oil. Blue Chieses, dry. Blue Ultramarine. Brown, Spanish. Brown, Van Dycke. Green, chrome. Green, chrome, in oil. Green, Paris, in oil. Fron Paint, ground in oil, bright red. Iron Paint, ground in oil, prown. Iron Paint, ground in oil, assorted cans, green, and green,		4C
Sienna, burnt, in oil	8@	115C
Sienna, raw	8@	115C
Umber, burnt	40	@8¢
Umber, burnt, in oil	-1/@	114C
Umber, raw	379 (97	779 C
Vermilion Chinese	00	0000
Vermilion, English	60@	6sc
Vermilion, American,	1860	18c
White Lead, American, pure dry	7	7 C
White Lead, American, pure in oil	.616@1	, c
White, Paris, English, primein bri	S. 1%6	@2C
Yellow Ochre, French	\$	1.75
Yellow Ochre, French, in oil asst'd cns, go	; kegs	, 6c
Yellow Ochre, American in bols.,	1% (@1	75 C
Vellow Chrome in oil	(A126)	180
Zinc White American No. 1, dry	66	a ac
Zinc White, American, No 1, in oil	6360	DOC
Zinc White, French dry	9@	12C
Zinc White, French in oil	10@	14C
OILS.		
Bleached W. Sperm oil	95 91	60
Nat. " " "	920	95
B. W. Elephant oil	70@-	_
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Prime Lard oil	50(a)	52
Prime Lard oil	48@-	25
Miners' oil	35@	
Miners' oil	30(0)	
Neatsfoot oil	5068	
Neatsfoot oil	30@	
Best Filtered " "	50@-	_
Signal oil	50@	-
Paraffine	12@	30

Frosting Glue, wh	s		• • • • • • • • • •	t'd cans, 8c	18@36c
Glue, she Glue, or	dinary	zinc	********	• • • • • • • • • • • •	8@12 8@12
Gum, Co Gum, D	pal amar				36c
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	TI	N F	LAT	ES.	
		-	CK TIN.		
	"Lamb			"Straits"	
Large Pi	gs		*******	"Straits,"	. 23
Bars	gs				. 24
		TINNER	S' SOLDE	SR.	
No. 1 Re	Half-and	Half.	*******		13
Strictly	Half-and-	Half		**********	. 1436
IC	Claice	ROOPE	NG PLAT	s. e	
IX, 1489	0, 61.016	11	14		. 6 50
IX, 1489 IC, 2082					
IC. 20X2	Extra	fine o	uality, c	harcoal roo	. 13 OU
	ing, ge	nuine	"old sty	te redipped	. 14 00
IX, soxs	*,	COMM	DI ATES	3	10 00
C TOWIA	bright	"R V	" grade	**********	. 5 00
C, 14×20,	47			******	5 00
X, 14×20,	Custon	• • • • • •		• • • • • • • • • • • •	. 6 50
		SHEE	T ZINC.		
In casks o	of 600 ths	., P D.			. 5%
in smarter	quantiti		PLATES.	********* ***	. 6%
ic,	10X14, ('harco	AL		5 50
IX.	IOX14,	**			7 50
ic,	19X19,	44			
IC,	14×20,	44	******	**********	5 50
IX'X	14820,	44	******		
IXXX,	14X20,	44	******	**********	11 50
iC, IX, IXX, IXXX, IXXXX, IXXXX, IX, DC.	14×20,	60	***** **		
IX, DC,	100, Plan	e "		**********	5 50
DX,	100, "	66	*****	**********	7 50
DC, DX, DXX, DXX,	100, Plai 100, " 100, "	**	T METAL		9 50
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No. 1 Ord	inary			********	18
Excelsion	Babbitt !	Metal,	No. 2	***********	10
44	44		4	**********	9
Pig			AD.		536
Bar, (15 o	z. bars)			***********	514
Pine, full	coils				8 7
		cos			
Tinned Sh	eathing,	14×48,	14, 16, 18	or , 14, 16 or 3 7, 8, 9	20
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Cinning E	xtra		- Donier	- /, -, y	35



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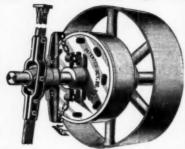
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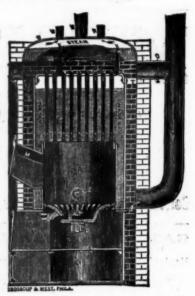
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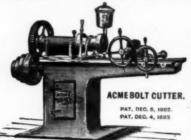


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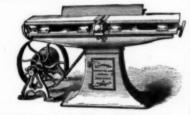
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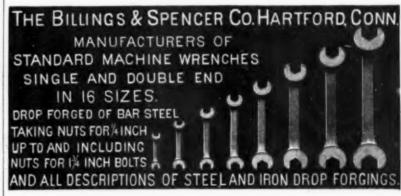
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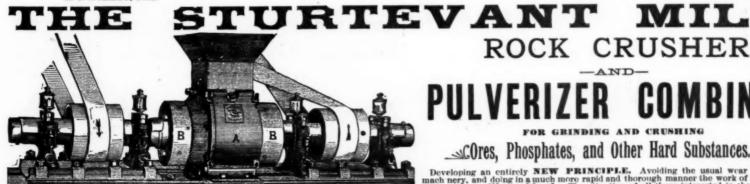
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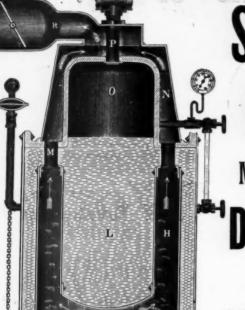
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